GROUNDWATER PERFORMANCE MONITORING REPORT

June 2014 Sampling

ROTH BROS. SMELTING CORP. CORRECTIVE ACTION MANAGEMENT UNIT (CAMU)

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1.0 INTRODUCTION

This report presents the results of the June 2014 groundwater monitoring performed at the Corrective Action Management Unit (CAMU) located at the former Wabash Aluminum Alloys, LLC (Wabash) facility located at 6223 Thompson Road, East Syracuse, Onondaga County, New York (Site). The Plant #2 portion of the site is now owned by Metalico Syracuse Realty, Inc. (MSR), and Thompson Corners, LLC owns the Plant #1 portion of the Site.

Metalico Aluminum Recovery, Inc. (MARI) currently operates a scrap metal recycling facility and a secondary aluminum smelting operation at the MSR portion of the site. By agreement with Wabash, MARI assumed "Wabash's obligations to conduct ongoing environmental monitoring and testing at the Site" under a Consent Order with the New York State Department of Environmental Conservation (NYSDEC) that was entered into by Roth Bros. Smelting Corp. (Index # C7-0001-94-10), the owner of the Site at the time the CAMU was constructed. To satisfy this contractual obligation, MARI retained Barton & Loguidice, D.P.C., to prepare this report.

This report has been prepared in accordance with the site Operations and Maintenance Plan (Malcolm Pirnie, 1997) and the subsequent Sampling & Analysis Plan revisions [Appendix D to the Operations and Maintenance Plan] as a result of letter correspondence with NYSDEC in 2002, and the approval letter from NYSDEC in April 2011.

Samples were collected from eight (8) monitoring well locations on June 11, 2014. All samples were collected by personnel from Barton & Loguidice, D.P.C. (B&L) and were submitted to and analyzed by ALS Environmental (ALS) in Rochester, New York.

Figure 1 shows the location of the Plant #1 and Plant #2 properties. The asphalt-paved CAMU area is located north of Plant #2. The monitoring locations associated with the CAMU groundwater performance monitoring, are included on Figure 1.

Groundwater sampling was performed on a quarterly basis prior to June 2005 after which semi-annual monitoring was performed through 2010. Beginning with the June 2011 monitoring event, sampling is now performed on an annual basis in June of each year. This report addresses the data generated from the June 2014 monitoring.

2.0 CAMU GROUNDWATER PERFORMANCE MONITORING

2.1 <u>Monitoring Well Inspection</u>

The following monitoring wells are sampled as part of the CAMU Groundwater Monitoring Performance Program (see Figure 1):

B291	B281	B290	B401
B402R	B403	B404	MW-8R

Over the course of time, several CAMU monitoring wells have been inadvertently damaged, destroyed, or needed maintenance including:

- Monitoring well B280, formerly located north of the CAMU, was destroyed in September 2000. Based on its adjacent location, monitoring well B291 replaced monitoring well B280.
- Between the June 2004 and September 2004 sampling events, monitoring well B402 was destroyed. Monitoring well B402R was installed in November 2005 and began to be sampled for the December 2005 sampling event. The destroyed well (B402) was properly decommissioned using a rotary drilling rig on April 24, 2007.
- Monitoring well MW-8, installed as part of the 2001 Groundwater Investigation, was destroyed during construction of scrap yard improvements. Subsequently, monitoring well MW-8R was installed adjacent to the MW-8 location for inclusion in the CAMU Groundwater Performance Monitoring Program. The wellhead for monitoring well MW-8R was replaced on April 24, 2007 due to deterioration as the flush mounted well was set in a high traffic working area.
- On April 24, 2007 the area surrounding well B291 was cleared of vegetation, and the existing damaged flush-mounted well cover was removed and replaced with a stick-up-type protective casing installed in a concrete base. The wellhead was vertically surveyed relative to well B402R, with the new reference elevation being calculated at 410.86. A new, lockable well plug was installed in the well opening.
- o In an effort to avoid further well damage or loss prior to the December 2008 sampling event, all of the facility monitoring wells were painted, labeled and affixed with pole extensions and flagging. The wells were also fitted with new keyed alike locks. It was also noted that all the wells had old deteriorating polyethylene tubing dedicated to each well which is not a standard field sampling practice. All of the old tubing was removed from the wells and disposed of. New tubing for each well is now utilized during each round of sampling and then removed and disposed of properly when sampling is completed.
- o In late 2012 the drainage swale piping enclosure along the east side of the CAMU was extended. The extension of this enclosure eliminated access to the open surface water and sediment monitoring locations.

All of the required CAMU monitoring wells were sampled in June 2014.

2.2 **Groundwater Monitoring Work**

This section describes the field and laboratory procedures that were followed during this monitoring event. Table 1 provides a summary of the sampling frequency and the analytical parameters for each monitoring well for the CAMU groundwater monitoring program that began in 1998.

(a) Groundwater Contour Map

Prior to the sampling of the groundwater monitoring wells, the static water level of each monitoring well was measured. This work was performed using an electronic water level sensor capable of measuring to an accuracy of +/- 0.01 foot. The water level probe was decontaminated between wells by washing in an Alconox/water solution and rinsing with distilled water.

Figure 1 presents a groundwater contour map that reflects the water level data, which is set forth in Table 2. Table 2 also includes water level data for the eleven (11) prior groundwater sampling events.

The contour map indicates that the general groundwater flow direction at the Site is to the northeast toward the South Branch of Ley Creek. This finding is consistent with historical groundwater contour data.

(b) Groundwater Sampling & Analysis

Each of the monitoring wells was purged prior to sampling. Water surface elevations and field parameters (pH and Specific Conductance) were measured after purging and immediately prior to sample collection.

Purging of monitoring wells was performed with disposable bailers until a minimum of three (3) well volumes were removed or until the well went dry. After the monitoring wells were allowed to recharge overnight groundwater samples were collected using a low-flow peristaltic pump with new non-dedicated tubing at each location.

Collected samples were placed into clean coolers and kept on ice at 4°C until delivery to ALS Environmental.

Appendix A includes the field sampling data sheets and chain of custody records associated with this round of sampling.

(c) Monitoring Results

Table 3 provides an historical summary of the analytical groundwater data for this project, including the results of the June 2014 groundwater monitoring. Appendix B contains the analytical laboratory reports prepared by ALS Environmental (NYSDOH Laboratory I.D. #

10145). Data are highlighted, as appropriate, to indicate detected concentrations that exceed the following NYSDEC Class GA Groundwater Standards:

<u>Parameter</u>	Class GA Standard
рН	6.5 - 8.5 Std. Units
Lead	0.025 mg/L
Arsenic	0.025 mg/L
Aroclor 1016	0.09 ug/L*
Aroclor 1221	0.09 ug/L*
Aroclor 1232	0.09 ug/L*
Aroclor 1242	0.09 ug/L*
Aroclor 1248	0.09 ug/L*
Aroclor 1254	0.09 ug/L*
Aroclor 1260	0.09 ug/L*
Aroclor 1262	0.09 ug/L*
Aroclor 1268	0.09 ug/L*

Notes: *Limit applies to sum of all Aroclors

The results of the June 2014 sampling event indicate that the groundwater quality conditions at the CAMU have remained generally consistent since the last monitoring event and appear to correspond with historical groundwater quality data. The following sections summarize the analytical data collected during this sampling event:

pH – The Class GA standard for pH was not exceeded within any monitoring location.

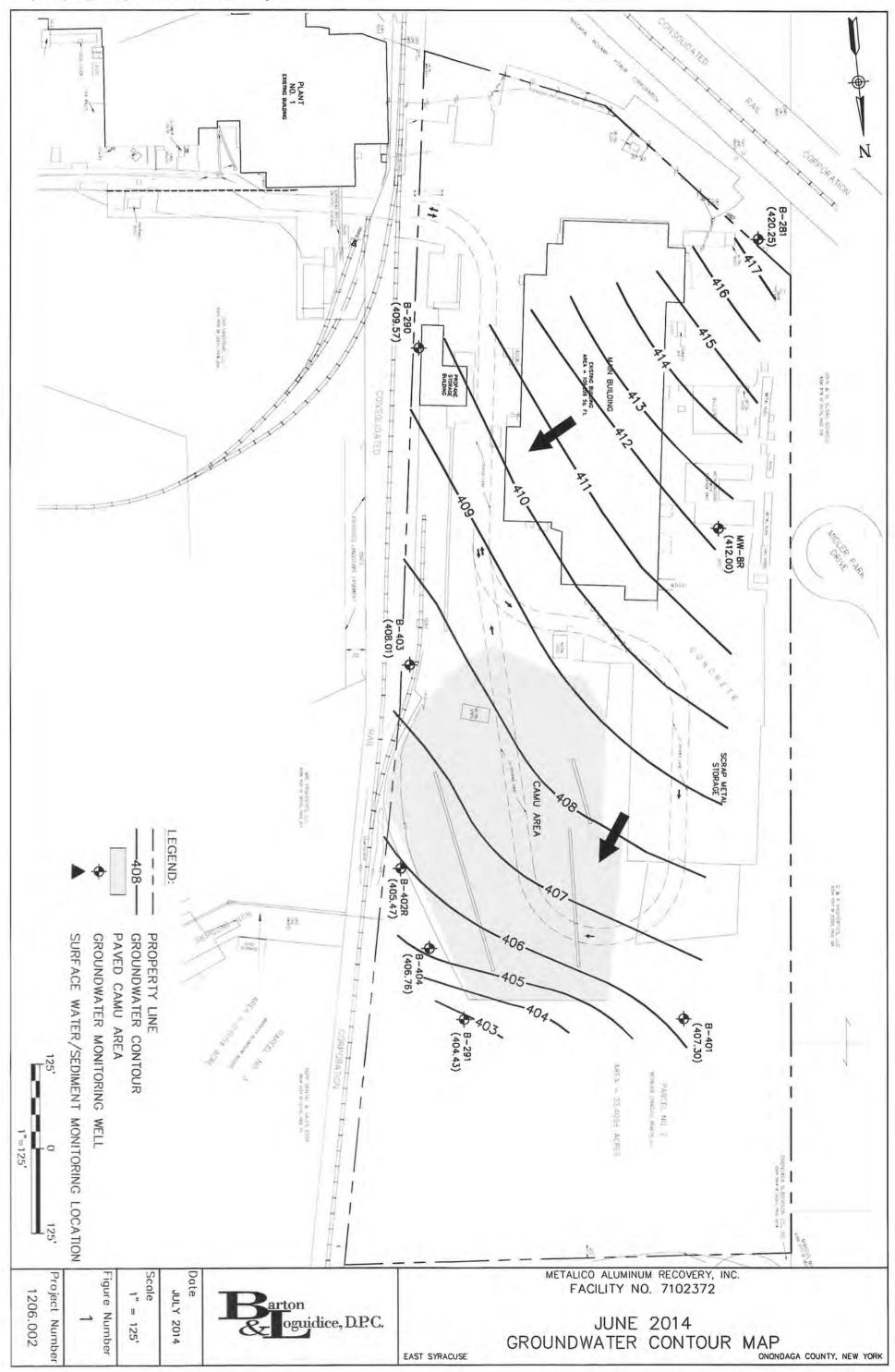
PCBs – During the June 2014 monitoring event MW-8R exceeded the NYSDEC Class GA groundwater standard for Aroclor 1254. The June 2014 detection of Aroclor 1254 (4.3 ug/L) is consistent with historical PCB results within this location. It should be noted that MW-8R is located upgradient of the CAMU. No other PCB detections were reported for the June 2014 monitoring event.

Specific Conductivity – Monitoring location MW-8R continued to exhibit elevated specific conductivity result during the 2014 monitoring event. No Class GA standard for specific conductivity is currently established. Salts used in the processes at the plant are stockpiled in a storage bay immediately adjacent to flush mounted MW-8R monitoring well. It is suspected that surface contamination is likely infiltrating the flush mounted well in the high traffic area resulting in elevated conductivity readings. The surface seal and well cover should be replaced on this monitoring well. Alternatively, this well should be pressure grouted and decommissioned to prevent further influence from operational surface contamination. Again, MW-8R is upgradient from the CAMU and not needed as a monitoring well.

Total & Dissolved Lead – Total and dissolved lead was not detected within any monitoring wells during the June 2014 monitoring event.

Total & Dissolved Arsenic – The Class GA standard of 0.025 mg/L for arsenic was exceeded within MW-8R (dissolved arsenic = 0.030 mg/L) during the June 2014 monitoring event. The total arsenic concentration (0.018 mg/L) was below the Class GA standard and it is suspected that the laboratory may have inadvertently mislabeled the samples. Total arsenic was also detected at monitoring well B290 at a concentration below the Class GA standard. No arsenic was detected within any of the remaining monitoring wells during the 2014 sampling event.

Figures



Tables

Table 1 ROTH BROS. SMELTING CORP. Corrective Action Management Unit (CAMU) Monitoring Schedule

Sampling Frequency	Parameter	Analytical Method	MDL	Well Location
Annual	Arsenic (Total and Dissolved)	EPA Method 6010	3 ug/L	B281
(June)	Lead (Total and Dissolved)		5 ug/L	B290
	PCB's	EPA Method 8082	0.050 ug/L	B291
				B401
				B402R
				B403
				B404
				MW-8R

Table 2 ROTH BROS. SMELTING CORP. Corrective Action Management Unit (CAMU) Groundwater Performance Monitoring Groundwater Elevation Summary Table

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Monitoring Well	B281		B290		B291		B401	
WELL DEPTH (FT): REFERNCE ELEVATION:	13.03 423.39		10.26 414.61		12.54 410.86		13.03 413.54	
DATE	ELEVATION	SWL	ELEVATION	SWL	ELEVATION	SWL	ELEVATION	SWL
10-Jun-14	417.39	6.00	409.52	5.09	402.73	8.13	406.14	7.40
13-Jun-13	419.88	3.51	410.23	4.38	405.34	5.52	408.43	5.11
18-Jun-12	417.31	6.08	409.25	5.36	402.37	8.49	405.11	8.43
22-Jun-11	419.27	4.12	409.71	4.90	403.35	7.51	405.50	8.04
29-Dec-10	418.82	4.57	409.63	4.98	404.14	6.72	407.42	6.12
23-Jun-10	419.53	3.86	409.69	4.92	404.81	6.05	407.79	5.75
16-Dec-09	419.28	4.11	409.71	4.90	403.95	6.91	408.48	5.06
29-Jun-09	413.75	9.64	409.50	5.11	403.53	7.33	406.84	6.70
18-Dec-08	419.31	4.08	409.63	4.98	404.43	6.43	408.39	5.15
05-Jun-08	417.18	6.21	404.35	10.26	403.72	7.14	404.62	8.92
31-Dec-07	416.66	6.73	409.77	4.84	404.73	6.13	408.33	5.21
29-Jun-07	416.44	6.95	410.38	4.23	401.96	8.90	404.83	8.71
19-Dec-06	420.25	3.14	409.57	5.04	404.43	6.43	407.30	6.24

Table 2 ROTH BROS. SMELTING CORP. Corrective Action Management Unit (CAMU) Groundwater Performance Monitoring Groundwater Elevation Summary Table

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Monitoring Well	B402R		B403		B404		8R		
WELL DEPTH (FT): REFERNCE ELEVATION:	12.24 409.44		11.26 411.05		16.14 410.77		10.00 415.30		
DATE	ELEVATION	SWL	ELEVATION	SWL	ELEVATION	SWL	ELEVATION	SWL	
10-Jun-14	405.98	3.46	407.37	3.68	405.14	5.63	412.21	3.09	
13-Jun-13	406.69	2.75	408.26	2.79	408.37	2.40	412.95	2.35	
18-Jun-12	405.03	4.41	406.95	4.10	404.33	6.44	412.46	2.84	
22-Jun-11	405.73	3.71	407.94	3.11	406.08	4.69	412.54	2.76	
29-Dec-10	406.64	2.80	407.98	3.07	406.73	4.04	412.18	3.12	
23-Jun-10	406.62	2.82	408.23	2.82	407.84	2.93	412.64	2.66	
16-Dec-09	406.64	2.80	408.11	2.94	407.56	3.21	411.92	3.38	
29-Jun-09	406.46	2.98	408.05	3.00	406.66	4.11	412.72	2.58	
18-Dec-08	406.81	2.63	407.91	3.14	406.92	3.85	412.59	2.71	
05-Jun-08	405.56	3.88	407.42	3.63	405.42	5.35	411.88	3.42	
31-Dec-07	406.97	2.47	408.08	2.97	407.27	3.50	412.45	2.85	
29-Jun-07	405.32	4.12	407.20	3.85	404.27	6.50	411.93	3.37	
19-Dec-06	405.47	3.97	408.01	3.04	406.76	4.01	412.00	3.30	

Metalico Aluminum Recovery, Inc.; Syracuse Facility

Table 3

ROTH BROS. SMELTING CORP.

Groundwater Performance Monitoring

Historical Laboratory Analytical Summary Table (Monitoring Well B281)

		Total	Dissolved	Total	Dissolved		Specific					Aroclors				
		Arsenic	Arsenic	Lead	Lead	рН	Conductivity	1016	1221	1232	1242	1248	1254	1260	1262	1268
U	nits	mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
Class G/	A Standard	0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
													_			_
	Jun-98			< 0.002	< 0.002	6.53	2690	-	-	-	-				-	-
	1999			< 0.010	< 0.010	7.47	3120	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		-
	Jun-00		.*.	< 0.001	< 0.001	6.72	2630	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Sep-00	. 		< 0.001	< 0.001	7.02	2560	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Dec-00	-	-	< 0.001	< 0.001	7.28	1956	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Mar-01	-	-	< 0.001	< 0.001	7.24	2020	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Jun-02	0.037	0.017	< 0.001	< 0.001				-	-	*	-				
	Sep-02	0.023	< 0.010	< 0.001	< 0.001	6.86	3000		-		-	-	-	-		1 -
	Dec-02	-		< 0.001	*	7.03	2060	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-03	- 4	-	< 0.001	< 0.001	7.27	1063	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Jun-03	- 2		0.001	< 0.001	7.32	3010	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-03	-		< 0.010	< 0.001	7.29	3170	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-03	0.017	< 0.001	0.002	0.001	7.27	2170	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-04	0.031	0.017	< 0.001	< 0.001	7.18	2230	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-04	-	-	< 0.001	0.001	7.47	2940	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Sep-04	-	7	< 0.001	< 0.001	7.03	2990	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
D004	Dec-04	-	-	0.004	< 0.001	7.39	1969	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
B281	Mar-05	-	-	< 0.001	< 0.001	7.48	3000	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Jun-05	0.016	0.011	< 0.001	< 0.001	7.33	2170	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-05		-	0.001	< 0.001	7.19	2430	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1.5	
	Jun-06	- 1		0.010	< 0.003	7.46	2780	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		1.5
	Dec-06	-		0.009	0.024	7.17	2430	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	11.00	1
	Jun-07	0.028	< 0.010	< 0.003	< 0.003	7.32	778	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1-0	
	Dec-07	0.064	< 0.010	< 0.003	< 0.003	8.71	321	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		1
	Jun-08	0.050	< 0.010	< 0.003	< 0.003	8.04		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	1.5
	Dec-08			< 0.003	< 0.003	7.10	2215	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-09	0.035	< 0.010	< 0.003	< 0.003	7.10		< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Dec-09	-	-	< 0.003	< 0.003	7.00	3900	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10
	Jun-10	0.014	0.005	< 0.003	< 0.003	7.20		< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		-
	Dec-10	-		< 0.003	< 0.003	7.00		< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		
	Jun-11	0.016	< 0.005	< 0.003	< 0.003	7.10		< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Jun-12	< 0.010	< 0.010	< 0.050	< 0.050	7.00	3700	-	-	-	< 0.047	< 0.047	< 0.047	< 0.047		-
	Jun-13	< 0.010	< 0.010	< 0.050	< 0.050	7.02		< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	-	-
	Jun-14	< 0.010	< 0.010	< 0.050	< 0.050	7.30		< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	1.	

Table 3 ROTH BROS. SMELTING CORP. Corrective Action Management Unit (CAMU) Groundwater Performance Monitoring

		Total	Dissolved		Dissolved		Specific					Aroclors				
		Arsenic	Arsenic	Total Lead	Lead	рН	Conductivity	1016	1221	1232	1242	1248	1254	1260	1262	1268
L	nits	mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
Class G	A Standard	0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
	Jun-98	•	11-	41.900	< 0.020	6.94	2180		1			.50	-	7		12
	1999	1		< 0.010	0.720	7.24	2370		-		-		-	-	-	
	Jun-00			0.045	< 0.001	6.87	2410	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Sep-00			0.050	< 0.001	7.42	2120	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Dec-00	1	-	0.092	< 0.001	7.01	1784	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-01		-	0.007	< 0.001	7.01	1693	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-02	•		0.048	< 0.001	-	*		1.0	-	-	-	-		-	-
	Sep-02		-	0.008	< 0.001	6.93	2130		-	100	-	-	-	-	-	-
	Dec-02		-	0.042		7.13	1707	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Mar-03			0.002	< 0.001	7.38	1451	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Jun-03	*		0.059	< 0.001	7.37	2420	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-03	-	- 4	0.021	< 0.001	7.17	2240	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-03	-	-	0.008	0.002	8.08	1322	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Mar-04			< 0.001	< 0.001	7.49	1590	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	1040
	Jun-04	7.		0.001	< 0.001	7.45	1711	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		1 -
	Sep-04			0.008	< 0.001	7.24	2410	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Dec-04		-	< 0.001	0.003	7.41	1822	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
B290	Mar-05	-0-		0.013	< 0.001	7.52	2450	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Jun-05		-	0.012	< 0.001	7.68	1663	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Dec-05	14	-		< 0.001	7.17		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-06	-	4.		< 0.003	7.67		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Dec-06		1.2	0.006	< 0.003	7.26	2430	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-07	7		0.016	0.004	8.10		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-07	-	W	0.019	< 0.003	8.47	1431	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		
	Jun-08	-	-	0.020	< 0.003	8.27	234	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	1
	Dec-08			0.015	< 0.003	7.74	1786	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		
	Jun-09			< 0.003	< 0.003	7.20	5400	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Dec-09		1.4	< 0.003	< 0.003	7.50	3600	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10
	Jun-10		+	< 0.012	< 0.003	7.10	2400	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		100
	Dec-10		*** <u>*</u> **		< 0.003	7.30	3300	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		
	Jun-11	0.011	0.009		< 0.003	7.10		< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Jun-12	0.036	< 0.010		< 0.050	7.10	2900			-	< 0.047	< 0.047	< 0.047	< 0.047		
	Aug-12	0.010			< 0.050	6.90	3500	•			12.112	-	-	1.7		-
	Jun-13	0.025	< 0.010		< 0.050	7.07		< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047		-
	Jun-14	0.021			< 0.050	7.40		< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	1.5	

Table 3 ROTH BROS. SMELTING CORP.

Corrective Action Management Unit (CAMU)

Groundwater Performance Monitoring

Historical Laboratory Analytical Summary Table (Monitoring Well B291)

		Total	Discolund		Dissolved		Specific					Aroclo	rs			0
		Total Arsenic	Dissolved Arsenic	Total Lead	Lead	рН	Conductivity	1016	1221	1232	1242	1248	1254	1260	1262	1268
U	nits	mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	μg/L	μg/L	μg/L						
Class G	A Standard	0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
	Sep-00			0.007	0.001	7.31	877	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	Ι.	
	Dec-00		-	0.007	0.001	7.24	848	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Mar-01	-	-	0.001	< 0.001	7.01	752	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Jun-02	0.012	< 0.010	< 0.003	< 0.001	7.01	132	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Sep-02	< 0.012	< 0.010	0.002	< 0.001	7.4	1134	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Mar-03	- 0.010	0.010	0.002	< 0.001	7.37	800	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Jun-03			0.003	0.001	7.38	1213	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Sep-03			< 0.001	< 0.001	7.21	898	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Dec-03	0.012	< 0.010	0.008	0.002	8.81	804	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Mar-04	0.020	0.016	0.002	< 0.001	7.31	860	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Jun-04	-	-	0.001	< 0.001	7.53	1167	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Sep-04	-		0.003	< 0.001	7.21	746	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Dec-04	-	+	0.001	0.001	7.10	958	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Mar-05			< 0.001	< 0.001	7.18	996	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
-	Jun-05	< 0.010	< 0.010	0.002	0.001	7.36	813	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
B291	Dec-05	D-17 W	-	0.002	< 0.001	7.23	971	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Jun-06	-	-	< 0.003	< 0.003	7.09	856	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Dec-06			< 0.003	< 0.003	6.87	968	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Jun-07	< 0.010	< 0.010	0.010	0.005	7.58	478	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Dec-07			< 0.003	< 0.003	8.62	650	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		
	Jun-08	< 0.010	< 0.010	< 0.003	< 0.003	8.21	876	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Dec-08	10.00		< 0.003	< 0.003	8.09	592	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		-
	Jun-09	< 0.010	< 0.010	< 0.003	< 0.003	6.90	950	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Dec-09		-	< 0.003	< 0.003	7.30	1130	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10
	Jun-10	< 0.010	< 0.005	< 0.003	< 0.003	7,00	750	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		
	Dec-10		•	< 0.003	< 0.003	7.10	900	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		-
	Jun-11	< 0.005	< 0.005	< 0.003	< 0.003	7.10	890	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Jun-12	< 0.010	< 0.010	< 0.050	< 0.050	7.00	900	-	-	-	< 0.047	< 0.047	< 0.047	< 0.047		10-0
	Jun-13	< 0.010	< 0.010	< 0.050	< 0.050	6.93	1020	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	-	
	Jun-14	< 0.010	< 0.010	< 0.050	< 0.050	6.70	1030	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047		1-

Table 3 ROTH BROS. SMELTING CORP. Corrective Action Management Unit (CAMU) Groundwater Performance Monitoring

Historical Laboratory Analytical Summary Table (Monitoring Well B401)

		Total	Dissolved		Dissolved		Specific					Aroclors	<u></u>			
		Arsenic	Arsenic	Total Lead	Lead	рН	Conductivity	1016	1221	1232	1242	1248	1254	1260	1262	1268
U	Inits	mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
Class G	A Standard	0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
										_	-			_	-	
	Jun-98	4-1	s tier	0.012	< 0.002	-		-	-	1		-		-		-
	1999	-		0.061	< 0.010	6.69	1510	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Jun-00			0.044	0.003	6.78	1275	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Sep-00	-		0.350	0.002	7.29	1159	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Dec-00	-	-	0.059	0.007	7.44	1180	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Mar-01	-		0.033	< 0.001	7.26	810	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-02	-		0.210	< 0.001				-	-	-	-	-	-	-	-
	Sep-02			0.060	0.002	7.48	644	-	-	-	-	-	-			
	Dec-02	· ·		0.013	-	7.27	925	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Mar-03			0.024	< 0.001	7.32	781	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Jun-03			0.010	0.003	7.66		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Sep-03		*	0.010	0.001	7.15	1126	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-03			0.021	0.002	8.37	791	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Mar-04	-		0.004	< 0.001	7.48	785	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Jun-04	-	-	0.031	< 0.001	7.49	1053	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Sep-04	*	-	0.005	< 0.001	7.11	1030	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
B401	Dec-04		-	0.002	< 0.001	7.21	937	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
D401	Mar-05		-	0.003	< 0.001	7.36	1038	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-05	34		0.003	0.001	7.83	814	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Dec-05	-		0.007	< 0.001	7.18	1066	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-06	- W	-	0.042	< 0.003	7.46	986	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Dec-06	4		0.011	< 0.003	6.39	502	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Jun-07	7		0.008	0.003	7.46	441	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Dec-07	-		< 0.003	< 0.003	8.32	691	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-08			0.017	< 0.003	8.08	930	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-08			< 0.003	< 0.003	7.90	693	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		
	Jun-09	100° - 100° V	-	< 0.003	< 0.003	6.90	1110	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Dec-09			< 0.003	< 0.003	7.30	1520	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10
	Jun-10			< 0.003	< 0.003	6.90	1100	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	
	Dec-10		1.4	< 0.003	< 0.003	7.10	1250	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		
	Jun-11	< 0.005	< 0.005		< 0.003	6.90		< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Jun-12	< 0.010			< 0.050	7.00	1110		-	-	< 0.047	< 0.047	< 0.047	< 0.047	-	1.5
	Jun-13	< 0.010			< 0.050	6.69		< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047		-
	Jun-14	< 0.010			< 0.050	8.50		< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	-	-

Table 3 ROTH BROS. SMELTING CORP.

Corrective Action Management Unit (CAMU)

Groundwater Performance Monitoring

Historical Laboratory Analytical Summary Table (Monitoring Well B402R)

			Disselved	Tatal	Dissalved		Specific					Aroclors				
		Total Arsenic	Dissolved Arsenic	Total Lead	Dissolved Lead	рН	Conductivity	1016	1221	1232	1242	1248	1254	1260	1262	1268
Uı	nits	mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
Class GA	Standard	0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
														1 005		_
	Dec-05	-	-	0.260	0.001	7.73	3060	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1.20	< 0.05		-
	Jun-06	-	-	0.003	< 0.003	8.37	2960	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-06	-	-	0.048	< 0.003	8.61	2680	0.10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-07	-	-	0.150	0.010	8.11	1658	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-07	-	-	0.042	< 0.003	8.13	1470	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-08	-	-	0.033	< 0.003	7.33	273	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-08	-	-	0.149	< 0.003	8.27	1893	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		-
DAGGE	Jun-09	-	-	< 0.003	< 0.003	7.90	3000	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
B402R	Dec-09	12		0.030	< 0.003	8.20	2280	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10
	Jun-10	-		0.028	< 0.003	8.30	> 20000	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Dec-10	4 /	-	0.370	< 0.003	8.40	3200	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	
	Jun-11	0.034	0.016	0.235	< 0.003	8.20	2800	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Jun-12	0.015	0.014	< 0.050	< 0.050	7.90	2700	-	-	-	< 0.047	< 0.047	< 0.047	< 0.047		-
	Aug-12	0.012	< 0.010	< 0.050	< 0.050	7.60	2400	-	-	-	-	-	-	-	-	-
	Jun-13	0.012	< 0.010	< 0.050	< 0.050	7.76	2600	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	-	-
	Jun-14	< 0.010	< 0.010	< 0.050	< 0.050	7.90	2700	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	-	

Table 3 ROTH BROS. SMELTING CORP. Corrective Action Management Unit (CAMU) Groundwater Performance Monitoring Historical Laboratory Analytical Summary Table (Monitoring Well B403)

		Total	Disashad	Total	Dissolved		Specific					Aroclors				
		Total Arsenic	Dissolved Arsenic	Total Lead	Dissolved Lead	рН	Conductivity	1016	1221	1232	1242	1248	1254	1260	1262	1268
U	Inits	mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
Class G	A Standard	0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
														T		
	Jun-98	+	-	0.284	< 0.002	7.21	1280	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	1999	-	-	0.240	0.010	7.36	710	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.17	< 0.01	-	-
	Jun-00	-	-	0.010	0.004	7.35	402	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Sep-00			0.007	0.003	8.41	520	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Dec-00	-	-	0.002	0.002	8.12	970	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Mar-01	-	-	0.004	0.003	7.54	415	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Jun-02		-	< 0.001	< 0.001	-		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Sep-02	-	-	0.005	< 0.001	7.11	456	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Dec-02	-		0.003		7.52	201	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Mar-03		-	0.002	< 0.001	7.97	200	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Jun-03	-		0.002	< 0.001	8.03	536	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	1 40
	Sep-03	11-11	-	0.002	< 0.001	7.61	351	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-03		-	0.004	0.001	8.41	235	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Mar-04	-		0.003	0.002	7.44	296	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Jun-04	-	-	0.001	0.002	7.65	681	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Sep-04	-		0.001	< 0.001	7.23	662	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	4	-
B403	Dec-04	-	-	< 0.001	< 0.001	7.52	613	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
D403	Mar-05	-	-	< 0.001	< 0.001	7.82	1156	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Jun-05	-		0.003	0.002	7.64	1135	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Dec-05			0.002	0.001	7.18	1372	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-06		-	< 0.003	< 0.003	7.36	1479	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Dec-06			< 0.003	< 0.003	7.85	1719	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
	Jun-07		1.0	< 0.003	0.005	8.41	822	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	+	
	Dec-07	-	1-0	< 0.003	< 0.003	8.61	913	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	1	
	Jun-08	7	-	< 0.003	< 0.003	8.25	1121	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Dec-08			< 0.003	< 0.003	7.81	771	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-09	-		< 0.003	< 0.003	7.40	1160	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Dec-09			< 0.003	< 0.003	7.20	1280	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10
	Jun-10	-	-	< 0.003	< 0.003	7.30	1020	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Dec-10	-		< 0.003	< 0.003	6.31	1080	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		-
	Jun-11	< 0.005	< 0.005	< 0.003	< 0.003	6.90	1060	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Jun-12	< 0.010	< 0.010	< 0.050	< 0.050	7.00	960		-	-	< 0.047	< 0.047	< 0.047	< 0.047	7.	
	Jun-13	< 0.010	< 0.010	< 0.050	< 0.050	7.07	970	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047		-
	Jun-14		< 0.010	< 0.050	< 0.050	8.00	960	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047		

Table 3 ROTH BROS. SMELTING CORP. Corrective Action Management Unit (CAMU) Groundwater Performance Monitoring

	Histori	cal Labora	tory Ana	alytical Sum	mary Table (Monitoring Well B404)	
						_

		Total	Dissolved		Dissolved		Specific					Aroclo	rs			
		Arsenic	Arsenic	Total Lead	Lead	pH	Conductivity	1016	1221	1232	1242	1248	1254	1260	1262	126
Un	its	mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	μg/L	μg/L	μg/						
Class GA	Standard	0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.0
						/										
	Jun-98	+:		0.007	0.003	10.55	2380	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	1999	-		< 0.010	< 0.010	6.72	1740	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.17	< 0.01		
	Jun-00	-		0.004	0.002	6.97	1573	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-00	- "	-	0.002	0.002	7.32	1114	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-00		-	0.003	< 0.001	7.47	589	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-01		4	0.003	0.003	7.54	610	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-02	- 10		< 0.001	< 0.001	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Sep-02	-		0.003	< 0.001	7.09	731	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-02		1 -	0.003		7.33	374	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-03		1 -	< 0.001	< 0.001	7.61	272	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Jun-03			0.002	< 0.001	7.63	544	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Sep-03	103		0.001	< 0.001	7.26	526	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-03	7.7		0.004	0.002	9.83	297	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-04		1	0.001	0.002	8.14	286	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-04	-	1.4	0.001	< 0.001	8.55	516	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Sep-04		LI-1	0.002	0.001	7.43	559	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	- 2
D404	Dec-04	020	-	< 0.001	< 0.001	7.66	348	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
B404	Mar-05		100	< 0.001	< 0.001	7.28	512	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-05	-	120	0.003	< 0.001	7.56	367	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Dec-05	-	1-1	< 0.001	< 0.001	7.14	512	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Jun-06	- "		< 0.003	< 0.003	7.46	523	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Dec-06	-	-	< 0.003	< 0.003	6.89	474	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Jun-07	-		0.006	0.004	7.24	365	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	
	Dec-07		-	< 0.003	< 0.003	7.24	365	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		1
	Jun-08	-	-	0.009	< 0.003	8.07	618	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Dec-08	-	1-1	< 0.003	< 0.003	7.08	539	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	
	Jun-09	-	-	< 0.003	< 0.003	6.90	600	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00
	Dec-09	-		< 0.003	< 0.003	7.30	610	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10
	Jun-10			< 0.003	< 0.003	6.90	350	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Dec-10	- 07	1 -0	< 0.003	< 0.003	7.20	550	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00		
	Jun-11	< 0.005	< 0.005	< 0.003	< 0.003	6.80	840	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Jun-12	< 0.010	< 0.010	< 0.050	< 0.050	7.20	830		-		< 0.047	< 0.047	< 0.047	< 0.047	T.	
		< 0.010	< 0.010		< 0.050	7.03	590	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047		-
	Jun-14	< 0.010	< 0.010	< 0.050	< 0.050	8.10	910	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047		

Table 3 ROTH BROS. SMELTING CORP.

Corrective Action Management Unit (CAMU)

Groundwater Performance Monitoring

Historical Laboratory Analytical Summary Table (Monitoring Well 8R)

		Total	Dissolved		Dissolved		Specific					Aroclors				
		Arsenic	Arsenic	Total Lead	Lead	pН	Conductivity	1016	1221	1232	1242	1248	1254	1260	1262	1268
L	Inits	mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
Class G	A Standard	0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
	T															
	Sep-02	-	-	0.004	0.001	9.21	933	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		-
	Dec-02	-		0.002	-	9.62	567	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.60	< 0.05		-
	Mar-03			0.001	0.002	8.82	551	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.30	< 0.05	-	-
	Jun-03	-	-	0.002	0.002	8.59	726	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.25	< 0.05		-
	Sep-03		-	0.002	< 0.001	8.05	441	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	5.90	< 0.05	-	-
	Dec-03		-	0.004	0.002	8.37	576	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	3.60	< 0.05	-	-
	Mar-04		-	0.002	< 0.001	7.91	531	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.60	< 0.05	-	-
	Jun-04			0.002	< 0.001	8.06	332	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.32	< 0.05		-
	Sep-04		-	< 0.001	0.002	7.14	811	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00		
	Dec-04		-	0.009	< 0.001	7.36	996	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.98	< 0.05	-	-
	Mar-05		-		< 0.001	7.76	1158	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1.20	< 0.05	•	-
	Jun-05		-	0.002	0.001	8.00	402	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	3.30	< 0.05	-	-
	Dec-05		-	0.001	0.001	7.67	893	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.63	< 0.05		
8R	Jun-06				< 0.003	8.39	239	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.92	< 0.05		
	Dec-06	-	-		< 0.003	7.46	549	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.30	< 0.05		-
	Jun-07		-		< 0.003	8.48	449	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	3.90	< 0.05	-	
	Dec-07		-		< 0.003	8.47	1113	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	0.70	< 1.00		
	Jun-08				< 0.003	7.81	1459	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	6.40	< 0.05	-	
	Dec-08 Jun-09				< 0.003	7.68	2668	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	- 1.00	- 1.00
	Dec-09				< 0.003 < 0.003	7.30	780 1010	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	16.00	< 1.00	< 1.00	< 1.00
	Jun-10				< 0.003	7.10	22	< 1.10	< 1.10	< 2.00	< 1.10	< 1.10	6.90 9.20	< 1.10	< 1.10	< 1.10
	Dec-10	-			< 0.003	7.40	11200	< 2.00	< 1.00	< 1.00	< 1.00	< 2.00	1.70 J	< 2.00	-	
	Jun-11	0.013	0.013		< 0.003	7.40	10400	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	23.00	< 1.00	< 10.00	< 10.0
	Jun-11	0.013	0.013		< 0.003	6.90	15300	< 10.00	< 10.00	< 10.00	< 0.47	< 0.47	15.00	< 0.47	< 10.00	< 10.0
	Aug-12	0.016	< 0.012		< 0.050	6.90	12500	< 0.05	< 0.05	< 0.05	< 0.47	0.80	1.30	0.18 P	-	1
	Jun-13	< 0.010	0.016		< 0.050	6.46	> 20000	< 0.03	< 0.03	< 0.03	< 0.47	< 0.24	4.30	< 0.24	-	-
	Jun-14	0.018	0.030		< 0.050	6.60	720000	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	4.30	< 0.24	-	1

Appendix A

roundwater ediment : s): asing (gallons): easuring point	X	Surface Water Leachate 6 13.03 2 1.12		Other (specify): Measuring Point: Top of Ri Measured by: MJK/MPS	
s): asing (gallons):		13.03		Measured by: MJK/MPS	
s): asing (gallons):		13.03		Measured by: MJK/MPS	
s): asing (gallons):		2			S
asing (gallons):				Deter OCHOHA	
		1.12		Date: 06/10/14	1
asuning point		1.12		Time: 12:27	
			20		
ailer	X	Submersible Pump		Air Lift System	
on-dedicated	X	Foot Valve		Peristaltic Pump	- 7
			=	r enstatte i ump	_
edicated		Bladder Pump			
d well recover?	NO L	Yes		Hecovery Time: Overnigh	1
ailer		Submersible Pump		Air Lift System	
			\Box		IN.
on-dedicated	X			Peristantic Pump	×
edicated		Bladder Pump			
	Time: 9:02	Date: 06/11/	4.4		
		_ Date. Oor III	14		
			14		
	, and		14		
		Sediment: None	14		
			14		
		Sediment: None			
7.3		Sediment: None Sp. Conductivity (umho	s/cm)	2400	
		Sediment: None	s/cm)	2400 219	
	on-dedicated edicated ster To Be Purged (galler of Water Purged (galler) d well purge dry? d well recover? ealler on-dedicated	on-dedicated X edicated 3.36 eter To Be Purged (gallons): 3.36 et of Water Purged (gallons): 3.50 d well purge dry? No C d well recover? No C ailer X edicated X edicated C	on-dedicated X Foot Valve Bladder Pump ster To Be Purged (gallons): 3.36 of Water Purged (gallons): 3.50 d well purge dry? No Yes d well recover? No Yes ailer Submersible Pump on-dedicated X Foot Valve Bladder Pump	on-dedicated	on-dedicated

FIELD SAMPLING DATA SHEET arton oguidice Engineers • Environmental Scientists • Planners • Landscape Architects B-290 SITE: Metalico - Thompson Road SAMPLE LOCATION: CLIENT: Metalico Aluminum Recovery, Inc. 1206.002.007 JOB #: Weather Conditions: Cloudy, Light Rain Temperature: 72 F SAMPLE TYPE: Groundwater X Surface Water Other (specify): Sediment Leachate WATER LEVEL DATA 5.09 Static Water Level (feet)*: Measuring Point: Top of Riser Measured by: MPS Measured Well Depth (feet)*: 10.26 Well Casing Diameter (inches): 2 Date: 06/10/14 Calculated Volume in Well Casing (gallons): 0.84 Time: 12:35 *depth from measuring point **PURGING METHOD** Submersible Pump Air Lift System Equipment: Bailer Peristaltic Pump Non-dedicated Foot Valve Dedicated Bladder Pump Calculated Volume Of Water To Be Purged (gallons): Actual Volume of Water Purged (gallons): Did well purge dry? Yes No Did well recover? Yes Recovery Time: Overnight No SAMPLING METHOD Submersible Pump Air Lift System Equipment: Bailer Х Peristaltic Pump Non-dedicated Foot Valve Dedicated Bladder Pump Sampled by: MJK/MPS Time: 9:29 Date: 06/11/14 SAMPLING DATA Sample Appearance Color: Clear Sediment: None Odor: None Field Measured Parameters pH (Standard Units) Sp. Conductivity (umhos/cm) 3500 7.4 Temperature (F) 62.0 Eh-Redox Potential (mV) 42 Turbidity (NTUs) 7.29 Dissolved Oxygen (mg/L) Samples Collected (Number/Type): Four bottles - T-Pb,As; D-Pb,As; PCBs (2) 14:00 06/11/14 Samples Delivered to: **ALS Courier** Time: Date:

COMMENTS: Orange purge water

Rev. 4/09 (MPS)

FOIL209562

SITE: CLIENT: Weather Conditions:	Metalico - Thomp Metalico Aluminum Cloudy, Light	Recovery, Inc.	SAMPLE LOCATION: JOB #: Temperature:	_	B-291 1206.002.007 72 F	=
SAMPLE TYPE:	Groundwater Sediment	X	Surface Water Leachate		Other (specify):	_
WATER LEVEL DATA						
Static Water Level (feet)			8.13		Measuring Point: Top of Ri	
Measured Well Depth (f		-1	12.54		Measured by: MJK/MP	
Well Casing Diameter (i Calculated Volume in W			2 0.71		Date: 06/10/14 Time: 14:15	0
	m measuring point		U,I I		Tillle: 14:15	
PURGING METHOD						
Equipment:	Bailer	X	Submersible Pump		Air Lift System	
	Non-dedicated	×	Foot Valve	F	Peristaltic Pump	Ē
	Dedicated		Bladder Pump	=	- Anna - Anna	1
	Dedicated		Diadder Fullip			
	Did well recover?	No	Yes	X	Recovery Time: Overnigh	t
	Railer		Submarsible Pump		Air Lift System	F
	Bailer		Submersible Pump		Air Lift System	
	Non-dedicated	X	Foot Valve		Air Lift System Peristaltic Pump	[x
		X D				[X
Equipment:	Non-dedicated Dedicated	X X — Time: 10:36	Foot Valve			[x
Equipment: Sampled by: MJK/MPS	Non-dedicated Dedicated		Foot Valve Bladder Pump			×
Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance	Non-dedicated Dedicated		Foot Valve Bladder Pump Date: 06/11/1			[X
Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear	Non-dedicated Dedicated		Foot Valve Bladder Pump			[x
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Odor: None	Non-dedicated Dedicated		Foot Valve Bladder Pump Date: 06/11/1			×
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Odor: None Field Measured Parame	Non-dedicated Dedicated		Foot Valve Bladder Pump Date: 06/11/1	4	Peristaltic Pump	[×
Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Odor: None Field Measured Parame OH (Standard Units)	Non-dedicated Dedicated Sters 6.7	Time: 10:36	Foot Valve Bladder Pump Date: 06/11/1 Sediment: None Sp. Conductivity (umhos	4 4	Peristaltic Pump	[x
Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Odor: None Field Measured Parame OH (Standard Units) Temperature (F)	Non-dedicated Dedicated sters 6.7 56.7	Time: 10:36	Foot Valve Bladder Pump Date: 06/11/1 Sediment: None Sp. Conductivity (umhos Eh-Redox Potential (mV)	4 4	Peristaltic Pump	[x
Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Odor: None Field Measured Parame OH (Standard Units) Temperature (F)	Non-dedicated Dedicated Sters 6.7	Time: 10:36	Foot Valve Bladder Pump Date: 06/11/1 Sediment: None Sp. Conductivity (umhos	4 4	Peristaltic Pump	×
	Non-dedicated Dedicated sters 6.7 56.7 8.35	Time: 10:36	Foot Valve Bladder Pump Date: 06/11/1 Sediment: None Sp. Conductivity (umhos Eh-Redox Potential (mV)	4 4	Peristaltic Pump	X

SITE: CLIENT: Weather Conditions:	Metalico - Thomps Metalico Aluminum Re Cloudy, Light F	covery, Inc.	SAMPLE LOCATION; JOB #: Temperature:	=	B-401 1206.002.007 72 F	
SAMPLE TYPE:	Groundwater Sediment	×	Surface Water Leachate		Other (specify):	
WATER LEVEL DATA						
Static Water Level (feet)			7.4		Measuring Point: Top of	Riser
Measured Well Depth (fe			13.03		Measured by: MJK	
Vell Casing Diameter (in			0.56		Date: 06/10/1 Time: 14:00	14
Calculated Volume in W	m measuring point		0.56		Time: 14:00	
depth fro	m measuring point					
PURGING METHOD		5-3				
Equipment:	Bailer	X	Submersible Pump		Air Lift System	
	Non-dedicated	×	Foot Valve		Peristaltic Pump	Ē
		[X]			r enstante r ump	
	Dedicated		Bladder Pump			
Actual Vo	Did well purge dry? Did well recover?	No [Yes Yes	X	Recovery Time: Overnic	aht
	Did well purge dry? Did well recover?		Yes Yes	X	Recovery Time: Overnig	ght
SAMPLING METHOD	Did well recover?	No [Yes		3.22.00	ght
SAMPLING METHOD Equipment:	Did well recover? Bailer	No [No [Yes Submersible Pump		Air Lift System	
SAMPLING METHOD	Did well recover? Bailer Non-dedicated	No [Submersible Pump Foot Valve		3.22.00	
AMPLING METHOD	Did well recover? Bailer	No [No [Yes Submersible Pump		Air Lift System	
SAMPLING METHOD Equipment:	Did well recover? Bailer Non-dedicated Dedicated	No [No [Submersible Pump Foot Valve	X	Air Lift System	
SAMPLING METHOD Equipment: Sampled by: MJK/MPS	Did well recover? Bailer Non-dedicated Dedicated	No [No [X	Submersible Pump Foot Valve Bladder Pump	X	Air Lift System	
SAMPLING METHOD Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance	Did well recover? Bailer Non-dedicated Dedicated	No [No [X	Submersible Pump Foot Valve Bladder Pump Date: 06/11/	X	Air Lift System	
SAMPLING METHOD Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear	Did well recover? Bailer Non-dedicated Dedicated	No [No [X	Submersible Pump Foot Valve Bladder Pump	X	Air Lift System	
AMPLING METHOD Equipment: Sampled by: MJK/MPS AMPLING DATA Sample Appearance Color: Clear Odor: None	Did well recover? Bailer Non-dedicated Dedicated	No [No [X	Submersible Pump Foot Valve Bladder Pump Date: 06/11/	X	Air Lift System	
SAMPLING METHOD Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Odor: None	Did well recover? Bailer Non-dedicated Dedicated Ti	No [No [X	Submersible Pump Foot Valve Bladder Pump Date: 06/11/	X	Air Lift System Peristaltic Pump	
SAMPLING METHOD Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Odor: None Field Measured Parame H (Standard Units)	Did well recover? Bailer Non-dedicated Dedicated Ti	No [No [X	Submersible Pump Foot Valve Bladder Pump Date: 06/11/	X	Air Lift System Peristaltic Pump	ghtx
CAMPLING METHOD Equipment: Campled by: MJK/MPS CAMPLING DATA Cample Appearance Color: Clear Odor: None Field Measured Parameter H (Standard Units) Comperature (F)	Bailer Non-dedicated Dedicated Tri ters 8.5 58.5	No [No [X	Submersible Pump Foot Valve Bladder Pump Date: 06/11/ Sediment: None Sp. Conductivity (umho	X	Air Lift System Peristaltic Pump 1180 219	
SAMPLING METHOD Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Odor: None	Did well recover? Bailer Non-dedicated Dedicated Ti	No [No [X	Submersible Pump Foot Valve Bladder Pump Date: 06/11/	X	Air Lift System Peristaltic Pump	
CAMPLING METHOD Equipment: Gampled by: MJK/MPS GAMPLING DATA Color: Clear Color: None Field Measured Parame H (Standard Units) Comperature (F) Turbidity (NTUs)	Bailer Non-dedicated Dedicated ters 8.5 58.5 0.61	No [No [X	Submersible Pump Foot Valve Bladder Pump Date: 06/11/ Sediment: None Sp. Conductivity (umho	X	Air Lift System Peristaltic Pump 1180 219	
SAMPLING METHOD Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Odor: None Field Measured Parame H (Standard Units) Femperature (F)	Bailer Non-dedicated Dedicated ters 8.5 58.5 0.61	No [No [X	Submersible Pump Foot Valve Bladder Pump Date: 06/11/ Sediment: None Sp. Conductivity (umho	X	Air Lift System Peristaltic Pump 1180 219	



FIELD SAMPLING DATA SHEET

SITE: CLIENT: Weather Conditions:	Metalico - Thomp Metalico Aluminum I Cloudy	Recovery, Inc.	SAMPLE LOCATION: JOB #: Temperature:		B-402R 1206.002.007 72 F	
SAMPLE TYPE:	Groundwater Sediment	X	Surface Water Leachate		Other (specify):	
WATER LEVEL DATA						(D)
Static Water Level (feet	formation and the second		3.46 12.24		Measuring Point: Top o Measured by: MJK	f Hiser
Measured Well Depth (f Well Casing Diameter (i			2		Date: 06/10	/14
Calculated Volume in W			1.4		Time: 14:34	
	m measuring point	'				
	and the same of the same					
PURGING METHOD	Poilor	[V]	Cultimoralible During		Air Lift Cuatom	
Equipment:	Bailer	X	Submersible Pump	=	Air Lift System	
	Non-dedicated	X	Foot Valve		Peristaltic Pump	
	Dedicated		Bladder Pump			
	Did well recover?	No [Yes	X	Recovery Time: Overr	night
SAMPLING METHOD	Bailer		Cultura estible Duran		Air Lift Custom	
	Dallel		Submersible Pump		Air Lift System	L
Equipment:	The state of the s				n	
equipment:	Non-dedicated	X	Foot Valve		Peristaltic Pump	[X
-qиіртепі:	Non-dedicated Dedicated	×	Foot Valve Bladder Pump		Peristaltic Pump	<u>[X</u>
	Dedicated	X Time: 12:30	4.4.6.0.0.0.0		Peristaltic Pump	<u>[X</u>
Sampled by: MJK/MPS	Dedicated		Bladder Pump		Peristaltic Pump	<u>[X</u>
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance	Dedicated		Bladder Pump Date: 06/11/1		Peristaltic Pump	<u>[X</u>
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear	Dedicated		Bladder Pump		Peristaltic Pump	<u>[X</u>
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Ddor: None	Dedicated		Bladder Pump Date: 06/11/1		Peristaltic Pump	LX
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Ddor: None Field Measured Parame	Dedicated	Time: <u>12:30</u>	Bladder Pump Date: 06/11/1 Sediment: None	4		Į×
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Odor: None Field Measured Parame OH (Standard Units)	Dedicated Seters 7.9	Time: <u>12:30</u>	Bladder Pump Date: 06/11/1 Sediment: None Sp. Conductivity (umhos	4	2700	Į×
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Odor: None Field Measured Parame OH (Standard Units) Femperature (F)	Dedicated Seters 7.9 61.8	Time: <u>12:30</u>	Bladder Pump Date: 06/11/1 Sediment: None Sp. Conductivity (umhos Eh-Redox Potential (mV	4 (s/cm)		Į×
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Ddor: None Field Measured Parame	Dedicated Seters 7.9	Time: <u>12:30</u>	Bladder Pump Date: 06/11/1 Sediment: None Sp. Conductivity (umhos	4 (s/cm)	2700	×
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Odor: None Field Measured Parame OH (Standard Units) Femperature (F)	Dedicated Sters 7.9 61.8 17.4 mber/Type):	Time: <u>12:30</u>	Bladder Pump Date: 06/11/1 Sediment: None Sp. Conductivity (umhos Eh-Redox Potential (mV	4 (s/cm)	2700	



BITE: CLIENT: Veather Conditions:	Metalico - Thomps Metalico Aluminum Re Cloudy, Light F	ecovery, Inc.	SAMPLE LOCATION: JOB #: Temperature:	_	B-403 1206.002,007 72 F	\equiv
SAMPLE TYPE:	Groundwater Sediment	X	Surface Water Leachate		Other (specify):	
VATER LEVEL DATA					Managara ar view.	
Static Water Level (feet			3.68		Measuring Point: Top of	Riser
Measured Well Depth (f Vell Casing Diameter (i			11.26		Measured by: MJK Date: 06/10/	11.1
Calculated Volume in W			1.21		Time: 12:50	
	m measuring point					
PURGING METHOD						
Equipment:	Bailer	X	Submersible Pump		Air Lift System	
-quipritoriti				=		E
	Non-dedicated	X	Foot Valve	=	Peristaltic Pump	
	Dedicated		Bladder Pump			
	Did well purge dry? Did well recover?	No [Yes Yes	X	Recovery Time: Overn	ight
SAMPLING METHOD						
Equipment:	Bailer		Submersible Pump		Air Lift System	
	Non-dedicated	X	Foot Valve		Peristaltic Pump	X
	Dedicated		Bladder Pump			
Sampled by: MJK/MPS	S T	ime: 9:49	Date: 06/11/1	4		
SAMPLING DATA						
Sample Appearance						
Color: Clear			Sediment: None			
Odor: None			_			
Field Measured Parame	eters					
H (Standard Units)	8.0		Sp. Conductivity (umhos	_	960	
emperature (F)	62.5		Eh-Redox Potential (mV		55	
urbidity (NTUs)	11.8		Dissolved Oxygen (mg/L	.)	H	
Gamples Collected (Nur our bottles - T-Pb,As; I						

EIELD SAMPLING DATA SHEET

SITE: CLIENT: Weather Conditions:	Metalico - Thomp Metalico Aluminum Cloudy	oson Road Recovery, Inc.	SAMPLE LOCATION: JOB #: Temperature:		B-404 1206.002.007 72 F	=
SAMPLE TYPE:	Groundwater Sediment	X	Surface Water Leachate		Other (specify):	_
WATER LEVEL DATA						
Static Water Level (feet)			5.63		Measuring Point: Top of	Riser
Measured Well Depth (f			16.14		Measured by: MPS	
Well Casing Diameter (i Calculated Volume in W			1.68		Date: 06/10/1 Time: 14:25	4
	m measuring point		1.00		Time. 14.20	
	in measuring point					
PURGING METHOD				_		-
Equipment:	Bailer	X	Submersible Pump		Air Lift System	
	Non-dedicated	X	Foot Valve		Peristaltic Pump	
	Dedicated		Bladder Pump	$\overline{\Box}$		
	Dedicated		bladdel Fullip			
Calculated Volume C	of Water To Be Purged (ga	llons): 5.04				
Antical Ma	olume of Water Purged (ga	llons): 6.50				
AGIDAL VI			_			
Actual Vo	D. I		<u>v</u> 1			
Actual Vo	Did well purge dry?		X Yes			
Actual Ve	Did well purge dry? Did well recover?		X Yes Yes	X	Recovery Time: Overnig	ght
		No [=	X	Recovery Time: Overnig	ght
SAMPLING METHOD	Did well recover?	No [Yes	X	APPENDING AND APPENDING AP	ght
SAMPLING METHOD	Did well recover? Bailer	No [Yes Submersible Pump	X	Air Lift System	
SAMPLING METHOD	Did well recover?	No [Yes	X	APPENDING AND APPENDING AP	
SAMPLING METHOD	Did well recover? Bailer	No [Yes Submersible Pump	X	Air Lift System	
SAMPLING METHOD Equipment:	Did well recover? Bailer Non-dedicated Dedicated	No [No [XX	Submersible Pump Foot Valve Bladder Pump		Air Lift System	
SAMPLING METHOD Equipment:	Did well recover? Bailer Non-dedicated Dedicated	No [Submersible Pump Foot Valve		Air Lift System	
SAMPLING METHOD Equipment: Sampled by: MJK/MPS	Did well recover? Bailer Non-dedicated Dedicated	No [No [XX	Submersible Pump Foot Valve Bladder Pump		Air Lift System	
SAMPLING METHOD Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance	Did well recover? Bailer Non-dedicated Dedicated	No [No [XX	Submersible Pump Foot Valve Bladder Pump Date: 06/11/1		Air Lift System	
SAMPLING METHOD Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear	Did well recover? Bailer Non-dedicated Dedicated	No [No [XX	Submersible Pump Foot Valve Bladder Pump		Air Lift System	
SAMPLING METHOD Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear	Did well recover? Bailer Non-dedicated Dedicated	No [No [XX	Submersible Pump Foot Valve Bladder Pump Date: 06/11/1		Air Lift System	ght
SAMPLING METHOD Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Odor: None	Bailer Non-dedicated Dedicated	No [No [XX	Submersible Pump Foot Valve Bladder Pump Date: 06/11/1		Air Lift System	
SAMPLING METHOD Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear Odor: None Field Measured Parame	Bailer Non-dedicated Dedicated	No [No [XX	Submersible Pump Foot Valve Bladder Pump Date: 06/11/1		Air Lift System	
SAMPLING METHOD Equipment: Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Clear	Did well recover? Bailer Non-dedicated Dedicated	No [No [X	Submersible Pump Foot Valve Bladder Pump Date: 06/11/1		Air Lift System Peristaltic Pump	

SAMPLE TYPE:	Oloddy, Eight	ecovery, Inc. Rain	SAMPLE LOCATION: JOB #: Temperature:		MW-8R / Dupe-X 1206.002.007 72 F
	Groundwater Sediment	X	Surface Water Leachate		Other (specify):
WATER LEVEL DATA					=
Static Water Level (feet)*			3.09		Measuring Point: Top of Riser
Measured Well Depth (fee			10.00		Measured by: MJK/MPS
Well Casing Diameter (inc	ches):		2		Date: 06/10/14
Calculated Volume in We			1.11		Time: 14:50
*depth from	measuring point				
PURGING METHOD					
Equipment:	Bailer	X	Submersible Pump		Air Lift System
су <i>шртет</i> .		-		=	
	Non-dedicated	X	Foot Valve		Peristaltic Pump
	Dedicated	61-11	Bladder Pump		
AND METUOD	Did well recover?	No L	Yes		Recovery Time: Overnight
SAMPLING METHOD	Bailer		Submersible Pump	-	A A Company
Launmant:	Dallel				Air Lift System
Equipment:	A CONTRACTOR OF THE CONTRACTOR				Air Lift System
Equipment:	Non-dedicated	×	Foot Valve		Air Lift System Peristaltic Pump
Equipment:	Non-dedicated Dedicated	×			
	Dedicated	X 	Foot Valve		
Sampled by: MJK/MPS	Dedicated		Foot Valve Bladder Pump		
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance	Dedicated		Foot Valve Bladder Pump Date:06/11/1		
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Hazy	Dedicated		Foot Valve Bladder Pump		
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Hazy	Dedicated		Foot Valve Bladder Pump Date:06/11/1	14_	
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Hazy Odor: Strong Ch	Dedicated		Foot Valve Bladder Pump Date:06/11/1	14	
Odor: Strong Ch	Dedicated emical		Foot Valve Bladder Pump Date:06/11/1		
Sampled by: MJK/MPS SAMPLING DATA Sample Appearance Color: Hazy Odor: Strong Ch	Dedicated		Foot Valve Bladder Pump Date: 06/11/1	s/cm)	Peristaltic Pump

FIELD SAMPLING DATA SHEET arton oguidice Engineers · Environmental Scientists · Planners · Landscape Architects SITE: Metalico - Thompson Road SAMPLE LOCATION: Equipment Blank CLIENT: Metalico Aluminum Recovery, Inc. 1206.002.007 JOB #: Weather Conditions: Cloudy, Rain Temperature: 72 F SAMPLE TYPE: Groundwater Surface Water Other (specify): Sediment Leachate WATER LEVEL DATA Static Water Level (feet)*: Measuring Point: Measured Well Depth (feet)*: Measured by Well Casing Diameter (inches): Date: Calculated Volume in Well Casing (gallons): Time: *depth from measuring point **PURGING METHOD** Equipment: Submersible Pump Air Lift System Bailer Foot Valve Peristaltic Pump Non-dedicated Dedicated Bladder Pump Calculated Volume Of Water To Be Purged (gallons): Actual Volume of Water Purged (gallons): Did well purge dry? No Yes Did well recover? No Yes Recovery Time: SAMPLING METHOD Equipment: Bailer Submersible Pump Air Lift System X Peristaltic Pump Non-dedicated Foot Valve Dedicated Bladder Pump Sampled by: MPS 06/11/12 Time: 8:45 Date: SAMPLING DATA Sample Appearance Color: Sediment: Odor: Field Measured Parameters pH (Standard Units) Sp. Conductivity (umhos/cm) Temperature (F) Eh-Redox Potential (mV) Dissolved Oxygen (mg/L) Turbidity (NTUs) Samples Collected (Number/Type): Four bottles - T-Pb,As; D-Pb,As; PCBs (2) Samples Delivered to: ALS Courier Time: 14:00 Date: 06/11/14 COMMENTS: Rev. 4/09 (MPS)



Engineers • Environmental Scientists • Planners • Landscape Architects

Record of Calibration

Project No:	1206.002.007	Date: 06/11/14	
Calibrated By:	MJK	Time: <u>8:30</u>	
pH Instrument Mod	elt nH Testr 10		
Standard Solu		Acceptable Range	
pH 4:	4.00	(+/- 1.0 pH, pH 3.0 - 5.0)	Pass / Fai
рн 4. рН 7:	7.00	(+/- 1.5 pH, pH 5.5 - 8.5)	1 433 / 1 41
pH 10:	10.00	(+/- 1.0 pH, ph 9.0 - 11.0)	
Sp.Conductivity	EC Tastr 11		
Standard Solu		Acceptable Range	
1413 uS	1410	(+/- 1.0 % Error = 1399-1427)	Pass / Fai
ORP Instrument Mo	odel: ORP Testr 10		
Standard Solu	ution Calibration Reading	Acceptable Range	
220 mV	222 @ 75F	(+/- 5% at 25°C, 209 - 231 mV)	Pass / Fai
or		All of the second states and the second seco	
YSI Zobell	Soln	(Refer to YSI calibration table)	
Turbidimeter Mode	l; Micro TPI		
Standard Soli	ution Calibration Reading	Acceptable Range	
0 NTU	0.0	Blank with 0.0 NTU	Pass / Fai
1.0 NTU	0.96	(0.5-1.5 NTU)	
10 NTU	10	(8-12 NTU)	
Methane Meter Mo	del: NA		
Standard G	as Calibration Reading	Acceptable Range	
2.50% Metha	ane -	(+/- 5.0% Error, 2.63-2.38% methane)	Pass / Fai
Comments			
Comments:			

1 7 0	The second second second
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$\Delta L U$	LIIVII OI BIICIII ai

1565 Jefferson Rd Bldg 300, Suite 360 Rochester, NY 14623

585-288-5380 FAX 585-288-8475

SR# _____OF __/

Project Name:Metalico CAMU Project Number: 202.003,007								nsiys	is Requ	iested					
Project Manager:Matt Strodel Company: Barton & Loguidice Company/Address: 290 E/wood Davis AdPhone: City, State, Zip:					Number of Containers	1	Total As, Pb	Dissolved As, Pb							
Sample I.D.	Date	Time	LABID	Matrix	ž	×	۴	۵			1			Ш	
B-281 (MS/MSA)	06/11/14	09:02		Water	6	K	K	K							
B-290		09:29		1	4	X	K	K							
B-291		10:36			4	K	K	K							
B-401		10:13			4	K	K	y							
B-402R		12:30			4	K	K	K							
B-403		09:49			4	K	X	k							
B-404	1 1	10:50			4	K	K	K							
MW-8R		13:02			4	a	K	K							
Equipment Blank		08:45			4	K	X	K							
Dupe X	IV	-		V	4	K	K	K							
rURNAROUND REQUIREME24 hr48 hr XStandard (15 BD)Provide FAX Preliminar Requested Report Date:	5 BD	REPORT REQUIREMENTS I. Routine Report: Results and Method Blank (Surrogate, as required) II. Results w/ QC (Dup., MS, MSD as req) 111. Results (with QC and Calibration				ments	s/Spec	ial Ins	tructio	ns:		Metall	co CAMU	1445 Idice, PC	 5
Invoice Information P.O.#_/206.@2,997 Bill to:		v	Summaries) V. ASP-B C. CLP DD?:												
RELINQUISHED BY: Signature: Matthew S Pricted Name: Matthew S Firm: B + L Date/Time: 14:00	Holel	Printed Name: Chris Wright Firm: ALS			RELINQUISHED BY: Signature: Sign										



Cooler Receipt and Preservation Check Form

Were Custody seals on outside of cooler? Y N Sa Perchlorate samples have required headspace? Y N N Did all bottles arrive in good condition (unbroken)? N Sb Did VOA vials, Alk,or Sulfide have sig* bubbles? Y N N Did all bottles arrive in good condition (unbroken)? N Soil VOA received as: Bulk Encore Soil Sect N Encore Soil Sect N Time: N N Prom: Temp Blank Sample Sample Soil VOA received as: Bulk Encore Soil Sect N Soil VOA received as: Bulk Encore Soil Sect N Soil VOA received as: Bulk Encore Soil Sect N Soil VOA received as: Bulk Encore Soil Sect N Soil VOA received as: Bulk Encore Soil Sect N Soil VOA received as: Bulk Encore Soil Sect N Soil VOA received as: Bulk Encore Soil Sect N Soil VOA received as: Bulk Encore Soil Sect N Soil VOA received as: Bulk Encore Soil Sect N Soil VOA received as: Bulk Encore Soil Sect N Soil VOA received as: Bulk Encore Soil Sect N Soil VOA received as: Bulk Encore Soil Sect N Soil VOA received as: Bulk Encore Soil Sect N Soil VOA received Soil Sect N Soil VO	JOILT ICCCIVE											HY LL		
2 Custody papers properly completed (ink, signed)? (?) N 3 Did all bottles arrive in good condition (unbroken)? (?) N 4 Circle: WerTee Dry Ice Gel packs present? (?) N 5 Where did the bottles originate? AL&TROC CLIENT 7 Soil VOA received as: Bulk Encore 5035set N 7 Soil VOA received as: Bulk Encore 5035set N 8. Temperature Readings Date:	1 Wara Cu			a of c	by: blw	- Carlo / -					d header			N NA
3 Did all bottles arrive in good condition (unbroken)? V N 4 Circle: WerTee Dry Ice Gel packs present? V N 5 Soil VOA received as: Bulk Encore 5035set N 7 Soil VOA received as: Bulk Encore 5035set N 8 Temperature Readings Date: Time: 1300 ID: (IR#3 IR#4 From: Temp Blank Sampl Observed Temp (°C) 5.5° 5.60 7.16 Correction Factor (°C) +0.7 +0.7 +0.2 Corrected Temp (°C) 5.5° 5.70 7.8° Within 0.6°C?							Marie Marie	7.6			24 - 2			
Circle: VerTee Dry Ice Gel packs present? N 7 Soil VOA received as: Bulk Encore 5035set N	C. C. C. C. C. C.	ALTERNATION OF THE PROPERTY OF				-21	100			10.401.000.000				A MA
Temperature Readings Date: Time: 1800 ID: (R#3 1R#4 From: Temp Blank Sample Observed Temp (°C) 515" 510" 716" 1072	Did all bo	ottles arrive in	good c	ondit	ion (unbroken)?	N	6 W	here did	he bottles	originate?	Al	45/ROC	CLIE	TM
Observed Temp (°C) 515 516 716 Correction Factor (°C) +c.77 +t.77	Circle: 1	Wet Tee Dry	lce C	el pa	cks present?	N	7 Sc	oil VOA r	eceived as	: Bulk	Encor	re 50:	35set	WA-
Corrected Temp (°C) 5.7 5.7 7.8 Within 0-6°C?	Temperatur	e Readings	Dat	e:	Time: 1	800)	4	ID: (R#)	1R#4	Fr	om: Te	mp Blan	k Sam	ele Bot
Within 0-6°C?	bserved Te	emp (°C)	515		510	716								
Within 0-6°C?	Correction F	actor (°C)	toit		torz									
If out of Temperature, note packing/lice condition:	Corrected Te	emp (°C)	5.7		5170	7,80								
If out of Temperature, note packing/lice condition:	Vithin 0-6°C	27	0	N	NCN	Y	0	YI	1	Y . N	Y	N	Y	N
pH Reagent Yes No Lot Received Exp Sample ID Vol. Lot Added Final pH Yes=Al samples ≥12 NaOH Image: Na Photo Samples No=Samples	THE PARTY		orage i	Ocalic		-								
≥12 NaOH ≤2 HNO3 RDB2U36B 5/B ≤2 H ₂ SO ₄ were <4 NaHSO ₄ preserve Residual For CN If +, contact PM to The lab	Cooler Bre 1. W 2. D 3. W 4. A	akdown: Da Vere all bottle bid all bottle la Vere correct co.ir Samples: C	te : labels on abels an ontainer	completings	Time: cte (i.e. analysis, pres agree with custody p	servation papers?	1, etc.)?	by:	C. C.	N N	o de	t /z	triis	tidiro; ≥a
≤2 HNO3 RDB2U36B 5/5 No=Sar ≤2 H2SO4 were were <4	PC Second Cooler Bre 1. W 2. D 3. W 4. A Explain an	lary Review: cakdown: Da Vere all bottle lid all bottle la Vere correct of ir Samples: O y discrepance	te : labels on bels an ontainer cassette: ies:	Completings d tags s used s / Tul	Time: cte (i.e. analysis, presagree with custody plant for the tests indicate the state of the tests indicated the	servation papers? ed? Cani	sters Pre	by:	Vol.	ES N ES N Tedlar® Bag	o de	t /t	Trick Tres=A	AII.
≤2 H₂SO₄ were <4	PC Second Cooler Bre 1. W 2. D 3. W 4. A Explain an	lary Review: cakdown: Da Vere all bottle la Vere correct of ir Samples: O y discrepance Reagent	te : labels on bels an ontainer cassette: ies:	Completings d tags s used s / Tul	Time: cte (i.e. analysis, presagree with custody plant for the tests indicate the state of the tests indicated the	servation papers? ed? Cani	sters Pre	by:	Vol.	ES N ES N Tedlar® Bag	o de	t /t	Trick Tres=A	AII.
Residual For CN If+, contact PM to The lab	PC Second Cooler Bre 1. W 2. D 3. W 4. A Explain an pH ≥12	lary Review: cakdown: Da Vere all bottle la Vere correct co. ir Samples: C y discrepanc Reagent NaOH	te : labels of abels an ontainer Cassette: ies: Yes	Completings d tags s used s / Tul	Time: cte (i.e. analysis, presagree with custody plant for the tests indicate the ses intact Lot-Received	servation papers? ed? Cani	sters Pre	by:	Vol.	ES N ES N Tedlar® Bag	o de	t /t	Yes=/sample	All es OK
	PC Second Cooler Bre 1. W 2. D 3. W 4. A Explain an pH ≥12 ≤2 ≤2	lary Review: cakdown: Da Vere all bottle la Vere correct co. ir Samples: C y discrepanc Reagent NaOH HNO ₃ H ₂ SO ₄	te : labels of abels an ontainer Cassette: ies: Yes	Completings d tags s used s / Tul	Time: cte (i.e. analysis, presagree with custody plant for the tests indicate the ses intact Lot-Received	servation papers? ed? Cani	sters Pre	by:	Vol.	ES N ES N Tedlar® Bag	o de	t /t	Yes=A sample No=Si were	All es OK amples
Chlorine Phenoi add 1425201 (C14).	PC Second Cooler Bre 1. W 2. D 3. W 4. A Explain an pH ≥12 ≤2 ≤2 <4	lary Review: leakdown: Da Vere all bottle la Vere correct co ir Samples: C by discrepanc Reagent NaOH HNO ₃ H ₂ SO ₄ NaHSO ₄	te : labels of abels an ontainer Cassette: ies: Yes	Completings d tags s used s / Tul	Time: te (i.e. analysis, presagree with custody plant for the tests indicate the ses interest in the ses in t	servation papers? ed? Cani	sters Pre	by:	Vol.	ES N ES N Tedlar® Bag	o de	t /t	Yes=/sample No=Sawere preser	All es OK amples
	PC Second Cooler Bre 1. W 2. D 3. W 4. A Explain an pH ≥12 ≤2 <4 Residual Chlorine	lary Review: lakdown: Da Vere all bottle la Vere correct of ir Samples: C y discrepanc Reagent NaOH HNO ₃ H ₂ SO ₄ NaHSO ₄ For CN Phenol	te : labels of abels an ontainer Cassette: ies: Yes	Completings d tags s used s / Tul	Time: cle (i.e. analysis, pres agree with custody p for the tests indicate ces Intact Lot-Received RDBDL/3/6/B If+, contact PM to add Na ₃ S ₂ O ₃ (CN),	servation papers? Cani	sters Pre	by:	Vol.	ES N ES N Tedlar® Bag	o de	t /t	Yes=A sample No=Sa were preser The la	All es OK amples
ZnAcetate **Not to be tested before analysis - pH tested and Adjust:	PC Second Cooler Bre 1. W 2. D 3. W 4. A Explain an pH ≥12 ≤2 ≤4 Residual	lary Review: lakdown: Da Vere all bottle la Vere correct co ir Samples: C ly discrepanc Reagent NaOH HNO ₃ H ₂ SO ₄ NaHSO ₄ For CN	te : labels cabels an ontainer Cassette: ies:	Completed tags sused No	Time: cle (i.e. analysis, pres agree with custody p for the tests indicate ces Intact Lot-Received RDBDL/3/6/B If+, contact PM to add Na ₃ S ₂ O ₃ (CN),	servation papers? Cani	sters Pre	by:	Vol. Added	N N N Pedlar® Bag.	O da	final pH	Yes=/sample No=Sawere preser The la listed	All es OK amples ved at b as
HCI ** ** recorded by VOAs on a separate worksheet	PC Second Cooler Bre 1. W 2. D 3. W 4. A Explain an pH ≥12 ≤2 <4 Residual Chlorine	lary Review: lakdown: Da Vere all bottle la Vere correct co lar Samples: Co lar discrepance Reagent NaOH HNO ₃ H ₂ SO ₄ NaHSO ₄ For CN Phenol and 522 Na ₂ S ₂ O ₃	te : labels cabels an ontainer Cassette: Yes	Collination of the control of the co	Time: cle (i.e. analysis, pres agree with custody p for the tests indicate ces Intact Lot-Received RDBDL/3/6/B If+, contact PM to add Na ₃ S ₂ O ₃ (CN),	servation papers? Cani	sters Pre Sample	by:essurized	Vol. Added	Nedlar® Bag	O day	final pH	Yes=A sample No=Sawere preser The la listed	All as OK amples wed at b as

PC Secondary Review:

P.INTRANET\QAQC\Forms Controlled\Conler Receipt r7.doc

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter 8

Appendix B



June 23, 2014

Service Request No: R1404445

Mr. Matthew Strodel Barton & Loguidice, PC 290 Elwood Davis Road, Box 3107 Syracuse, NY 13220

Laboratory Results for: Metalico CAMU/1206.002.007

Dear Mr. Strodel:

Enclosed are the results of the sample(s) submitted to our laboratory on June 11, 2014. For your reference, these analyses have been assigned our service request number R1404445.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7473. You may also contact me via email at Deb.Patton@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Deb Patton Project Manager

Page 1 of 48

ADDRESS 1565 Jefferson Rd, Building 300, Suite 360, Rochester, NY 14623 PHONE 585-288-5380 | FAX 585-288-8475 ALS GROUP USA, CORP. Part of the ALS Group. An ALS Limited Company

Environmental

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00001

CASE NARRATIVE

This report contains analytical results for the following samples: Service Request Number: R1404445

<u>Lab ID</u> R1404445-001	Client ID B-281
R1404445-002	B-281 Dissolved
R1404445-003	B-290
R1404445-004	B-290 Dissolved
R1404445-005	B-291
R1404445-006	B-291 Dissolved
R1404445-007	B-401
R1404445-008	B-401 Dissolved
R1404445-009	B-402R
R1404445-010	B-402R Dissolved
R1404445-011	B-403
R1404445-012	B-403 Dissolved
R1404445-013	8-404
R1404445-014	B-404 Dissolved
R1404445-015	MW-8R
R1404445-016	MW-8R Dissolved
R1404445-017	EQUIPMENT BLANK
R1404445-018	EQUIPMENT BLANK Dissolved
R1404445-019	DUPE X
R1404445-020	DUPE X Dissolved

All samples were received in good condition unless otherwise noted on the cooler receipt and preservation check form located at the end of this report.

All samples were preserved in accordance with approved analytical methods.

All samples have been analyzed by the approved methods cited on the analytical results pages.

All holding times and associated QC were within limits

No analytical or QC problems were encountered.

All sampling activities performed by ALS personnel have been in accordance with "ALS Field Procedures and Measurements Manual" or by client specifications.

00002



REPORT QUALIFIERS AND DEFINITIONS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a
 Tentatively Identified Compound (TIC) or
 that the concentration is between the MRL
 and the MDL. Concentrations are not verified
 within the linear range of the calibration. For
 DoD: concentration >40% difference between
 two GC columns (pesticides/Arclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
- H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
- # Spike was diluted out.

- + Correlation coefficient for MSA is <0.995.
- Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
- X See Case Narrative for discussion.
- MRL Method Reporting Limit. Also known as:
- LOQ Limit of Quantitation (LOQ)

 The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
- MDL Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
- LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.
- ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.



Rochester Lab ID # for State Certifications1

NELAP Accredited	Maine ID #NY0032	New Hampshire ID #
Connecticut ID # PH0556	Nebraska Accredited	294100 A/B
Delaware Accredited	Nevada ID # NY-00032	North Carolina #676
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047		Virginia #460167

^{&#}x27; Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to

http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

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INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	3010A
200.8	ILM05.3
6010C	3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3010A
6010 SPLP (1312) extract	3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/	DI
353.2/ SM 2320B/ SM 5210B/ 9056A Anions	extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Sample Name: Lab Code:

B-281

R1404445-001

Service Request: R1404445 Date Collected: 6/11/14 0902

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result Q	Units	MRL	Dilution Date Factor Extracte	Date d Analyzed	Note
Arsenic, Total	6010C	10 U	µg/L	10	1 6/16/14	6/20/14 03:24	
Lead, Total	6010C	50 U	μg/L	50	1 6/16/14	6/20/14 03:24	0.1

Analytical Report

Client: Project: Barton & Loguidice, PC Metalico CAMU/1206.002.007

Sample Matrix:

Sample Name:

Lab Code:

Water

B-281 Dissolved R1404445-002

Service Request: R1404445

Date Collected: 6/11/14 0902

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result Q	Q Units	MRL	Dilution Date Factor Extrac		Note
Arsenic, Dissolved	6010C	10 U	J μg/L	10	1 6/16/1	4 6/20/14 03:55	,
Lead, Dissolved	6010C	50 U		50	I 6/16/1	4 6/20/14 03:55	i

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Service Request: R1404445 Date Collected: 6/11/14 0902

Date Received: 6/11/14 Date Extracted: 6/13/14

Date Analyzed: 6/17/14 21:38

Sample Name:

B-281

Lab Code:

R1404445-001

Units: µg/L Basis: NA

Low Level Polychlorinated Biphenyls (PCBs) by GC

Analytical Method: 8082A

Prep Method: Data File Name: EPA 3510C

I:\ACQUDATA\6890G\DATA\061714\AX566.D\

Analysis Lot: 397664 Extraction Lot: 210749

Instrument Name: R-GC-58

Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note	
12674-11-2	Aroclor 1016	0.047 U	0.047		
11104-28-2	Aroclor 1221	0.047 U	0.047		
11141-16-5	Aroclor 1232	0.047 U	0.047		
53469-21-9	Aroclor 1242	0.047 U	0.047		
12672-29-6	Aroclor 1248	0.047 U	0.047		
11097-69-1	Aroclor 1254	0.047 U	0.047		
11096-82-5	Aroclor 1260	0.047 U	0.047		

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
Decachlorobiphenyl	39	10-125	6/17/14 21:38		
Tetrachloro-m-xylene	80	18-126	6/17/14 21:38		

Form IA

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Sample Name: Lab Code: B-290

R1404445-003

Service Request: R1404445

Date Collected: 6/11/14 0929

Date Received: 6/11/14

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Total	6010C	21	μg/L	10	1.	6/16/14	6/20/14 04:01	
Lead, Total	6010C	50 U	µg/L	50	1	6/16/14	6/20/14 04:01	

Form 1A

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Sample Name:

Lab Code:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

B-290 Dissolved R1404445-004

Service Request: R1404445 Date Collected: 6/11/14 0929

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result Q	Units	MRL	Dilution Date Factor Extracte	Date d Analyzed	Note
Arsenic, Dissolved	6010C	10 U	μg/L	10	1 6/16/14	6/20/14 04:07	
Lead, Dissolved	6010C	50 U	μg/L	50	1 6/16/14	6/20/14 04:07	1

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Service Request: R1404445 Date Collected: 6/11/14 0929

Date Received: 6/11/14 Date Extracted: 6/13/14

Date Analyzed: 6/17/14 22:53

Units: µg/L Basis: NA

Sample Name:

B-290

Lab Code:

R1404445-003

Low Level Polychlorinated Biphenyls (PCBs) by GC

Analytical Method: 8082A Prep Method:

Data File Name:

EPA 3510C

I:\ACQUDATA\6890G\DATA\061714\AX569.D\

Analysis Lot: 397664 Extraction Lot: 210749 Instrument Name: R-GC-58

Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note	
12674-11-2	Aroclor 1016	0.050	U	0.050		
11104-28-2	Aroclor 1221	0.050	U	0.050		
11141-16-5	Aroclor 1232	0.050	U	0.050		
53469-21-9	Aroclor 1242	0.050	U	0.050		
12672-29-6	Aroclor 1248	0.050	U	0.050		
11097-69-1	Aroclor 1254	0.050	U	0.050		
11096-82-5	Aroclor 1260	0.050	U	0.050		

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
Decachlorobiphenyl	37	10-125	6/17/14 22:53		
Tetrachloro-m-xylene	71	18-126	6/17/14 22:53		

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Sample Name:

B-291

Lab Code:

R1404445-005

Service Request: R1404445 Date Collected: 6/11/14 1036

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Total	6010C	10	U	μg/L	10	1	6/16/14	6/20/14 04:26	
Lead, Total	6010C	50	U	µg/L	50	1	6/16/14	6/20/14 04:26	

Analytical Report

Client: Project: Barton & Loguidice, PC

Metalico CAMU/1206.002.007 Sample Matrix:

Water

Service Request: R1404445 Date Collected: 6/11/14 1036 Date Received: 6/11/14

Sample Name: Lab Code:

B-291 Dissolved R1404445-006

Basis: NA

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	1 Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10 U	μg/L	10	1	6/16/14	6/20/14 04:32	
Lead, Dissolved	6010C	50 U	μg/L	50	1	6/16/14	6/20/14 04:32	

Analytical Report

Client: Project: Barton & Loguidice, PC

Sample Matrix:

Metalico CAMU/1206.002.007

Water

Service Request: R1404445 Date Collected: 6/11/14 1036 Date Received: 6/11/14

Date Extracted: 6/16/14

Date Analyzed: 6/18/14 01:49

Units: µg/L Basis: NA

Sample Name:

B-291

Lab Code:

R1404445-005

Low Level Polychlorinated Biphenyls (PCBs) by GC

Analytical Method: 8082A

Prep Method:

EPA 3510C

Data File Name:

I:\ACQUDATA\6890G\DATA\061714\AX576.D\

Analysis Lot: 397664

Extraction Lot: 210846 Instrument Name: R-GC-58

Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note	
12674-11-2	Aroclor 1016	0.047	U	0.047		
11104-28-2	Aroclor 1221	0.047	U	0.047		
11141-16-5	Aroclor 1232	0.047	U	0.047		
53469-21-9	Aroclor 1242	0.047	U	0.047		
12672-29-6	Aroclor 1248	0.047	U	0.047		
11097-69-1	Aroclor 1254	0.047	Ų	0.047		
11096-82-5	Aroclor 1260	0.047	U	0.047		

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	49	10-125	6/18/14 01:49	
Tetrachloro-m-xylene	76	18-126	6/18/14 01:49	

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14-0000292882.160.00

SuperSet Reference:

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Sample Name: Lab Code: B-401

R1404445-007

Service Request: R1404445 Date Collected: 6/11/14 1013

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result Q	Units	MRL	Dilution D Factor Ext	ate racted	Date Analyzed	Note
Arsenic, Total	6010C	10 U	μg/L	10	1 6/1	16/14	6/20/14 04:38	
Lead, Total	6010C	50 U	μg/L	50	1 6/1	16/14	6/20/14 04:38	

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Sample Name: Lab Code:

B-401 Dissolved R1404445-008

Service Request: R1404445 Date Collected: 6/11/14 1013

Date Received: 6/11/14

Basis: NA

		, i			Dilution	Date	Date	
Analyte Name	Method	Result Q	Units	MRL	Factor	Extracted	Analyzed	Note
Arsenic, Dissolved	6010C	10 U	μg/L	10	1	6/16/14	6/20/14 04:44	
Lead, Dissolved	6010C	50 U	μg/L	50	1	6/16/14	6/20/14 04:44	

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Service Request: R1404445

Date Collected: 6/11/14 1013 Date Received: 6/11/14

Date Extracted: 6/16/14

Date Analyzed: 6/18/14 02:15

Units: µg/L Basis: NA

Sample Name:

B-401

Lab Code:

R1404445-007

Low Level Polychlorinated Biphenyls (PCBs) by GC

Analytical Method: 8082A

EPA 3510C

Prep Method: Data File Name:

I:\ACQUDATA\6890G\DATA\061714\AX577.D\

Analysis Lot: 397664

Extraction Lot: 210846 Instrument Name: R-GC-58

Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note	
12674-11-2	Aroclor 1016	0.047 U	0.047		
11104-28-2	Aroclor 1221	0.047 U	0.047		
11141-16-5	Aroclor 1232	0.047 U	0.047		
53469-21-9	Aroclor 1242	0.047 U	0.047		
12672-29-6	Aroclor 1248	0.047 U	0.047		
11097-69-1	Aroclor 1254	0.047 U	0.047		
11096-82-5	Aroclor 1260	0.047 U	0.047		

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	64	10-125	6/18/14 02:15	
Tetrachloro-m-xylene	89	18-126	6/18/14 02:15	

Analytical Report

Client: Project: Barton & Loguidice, PC

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Sample Name: Lab Code: B-402R

R1404445-009

Service Request: R1404445 Date Collected: 6/11/14 1230

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Total	6010C	10 U	μg/L	10	1	6/16/14	6/20/14 04:51	
Lead, Total	6010C	50 U	µg/L	50	1	6/16/14	6/20/14 04:51	

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix: Water

D 4020 Di----

Sample Name: Lab Code: B-402R Dissolved R1404445-010 Service Request: R1404445

Date Collected: 6/11/14 1230

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10 U	μg/L	10	- I	6/16/14	6/20/14 04:57	
Lead, Dissolved	6010C	50 U	μg/L	50	1	6/16/14	6/20/14 04:57	

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Service Request: R1404445

Date Collected: 6/11/14 1230 Date Received: 6/11/14

Date Extracted: 6/16/14 Date Analyzed: 6/18/14 02:40

> Units: µg/L Basis: NA

Sample Name:

B-402R

Lab Code:

R1404445-009

Low Level Polychlorinated Biphenyls (PCBs) by GC

Analytical Method: 8082A Prep Method:

Data File Name:

EPA 3510C

1:\ACQUDATA\6890G\DATA\061714\AX578.D\

Analysis Lot: 397664 Extraction Lot: 210846

Instrument Name: R-GC-58

Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note	
12674-11-2	Aroclor 1016	0.047 U	0.047		
11104-28-2	Aroclor 1221	0.047 U	0.047		
11141-16-5	Aroclor 1232	0.047 U	0.047		
53469-21-9	Aroclor 1242	0.047 U	0.047		
12672-29-6	Aroclor 1248	0.047 U	0.047		
11097-69-1	Aroclor 1254	0.047 U	0.047		
11096-82-5	Aroclor 1260	0.047 U	0.047		

Surrogate Name	%Rec	Control Limits	Date Analyzed Q	
Decachlorobiphenyl	42	10-125	6/18/14 02:40	
Tetrachloro-m-xylene	69	18-126	6/18/14 02:40	

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Sample Name: Lab Code:

B-403

R1404445-011

Service Request: R1404445 Date Collected: 6/11/14 0949

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor		Date Analyzed	Note
Arsenic, Total	6010C	10	U	μg/L	10	ſ	6/16/14	6/20/14 05:03	
Lead, Total	6010C	50	U	μg/L	50	1	6/16/14	6/20/14 05:03	

Analytical Report

Client: Project:

Lab Code:

Barton & Loguidice, PC

Metalico CAMU/1206.002.007

Sample Matrix: Sample Name:

Water

B-403 Dissolved R1404445-012

Service Request: R1404445 Date Collected: 6/11/14 0949

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result Q	Units	MRL	Dilution Date Factor Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10 U	μg/L	10	1 6/16/14	6/20/14 05:09	
Lead, Dissolved	6010C	50 U	µg/L	50	1 6/16/14	6/20/14 05:09	

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Service Request: R1404445 Date Collected: 6/11/14 0949

Date Received: 6/11/14 Date Extracted: 6/16/14

Date Analyzed: 6/18/14 03:05

Units: µg/L Basis: NA

Sample Name:

B-403

Lab Code:

R1404445-011

Low Level Polychlorinated Biphenyls (PCBs) by GC

Analytical Method: 8082A Prep Method:

EPA 3510C

Data File Name:

I:\ACQUDATA\6890G\DATA\061714\AX579.D\

Analysis Lot: 397664 Extraction Lot: 210846

Instrument Name: R-GC-58

Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note	
12674-11-2	Aroclor 1016	0.047 U	0.047		
11104-28-2	Aroclor 1221	0.047 U	0.047		
11141-16-5	Aroclor 1232	0.047 U	0.047		
53469-21-9	Aroclor 1242	0.047 U	0.047		
12672-29-6	Aroclor 1248	0.047 U	0.047		
11097-69-1	Aroclor 1254	0.047 U	0.047		
11096-82-5	Aroclor 1260	0.047 U	0.047		

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
Decachlorobiphenyl	54	10-125	6/18/14 03:05		
Tetrachloro-m-xylene	71	18-126	6/18/14 03:05		

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Sample Name: Lab Code:

B-404

R1404445-013

Service Request: R1404445 Date Collected: 6/11/14 1050

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	The second second	Date Analyzed	Note
Arsenic, Total	6010C	10 U	μg/L	10	T	6/16/14	6/20/14 05:15	
Lead, Total	6010C	50 U	μg/L	50	T	6/16/14	6/20/14 05:15	

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Lab Code:

Sample Name:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

B-404 Dissolved R1404445-014

Service Request: R1404445

Date Collected: 6/11/14 1050

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Oct. Stranger	Date Analyzed	Note
Arsenic, Dissolved	6010C	10	U	μg/L	10	- + E	6/16/14	6/20/14 05:22	
Lead, Dissolved	6010C	50	U	μg/L	50	1	6/16/14	6/20/14 05:22	

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Service Request: R1404445 Date Collected: 6/11/14 1050

Date Received: 6/11/14 Date Extracted: 6/16/14

Date Analyzed: 6/18/14 03:31

Units: µg/L Basis: NA

Sample Name:

B-404

Lab Code:

R1404445-013

Low Level Polychlorinated Biphenyls (PCBs) by GC

Analytical Method: 8082A

Prep Method: Data File Name: EPA 3510C

I:\ACQUDATA\6890G\DATA\061714\AX580.D\

Analysis Lot: 397664

Extraction Lot: 210846 Instrument Name: R-GC-58

Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note	
12674-11-2	Aroclor 1016	0.047 U	0.047		
11104-28-2	Aroclor 1221	0.047 U	0.047		
11141-16-5	Aroclor 1232	0.047 U	0.047		
53469-21-9	Aroclor 1242	0.047 U	0.047		
12672-29-6	Aroclor 1248	0.047 U	0.047		
11097-69-1	Aroclor 1254	0.047 U	0.047		
11096-82-5	Aroclor 1260	0.047 U	0.047		

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
Decachlorobiphenyl	39	10-125	6/18/14 03:31		
Tetrachloro-m-xylene	63	18-126	6/18/14 03:31		

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002,007

Sample Matrix:

Water

Sample Name: Lab Code: MW-8R

R1404445-015

Service Request: R1404445

Date Collected: 6/11/14 1302

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result Q	Units	MRL	Dilutior Factor	Date Extracted	Date Analyzed	Note
Arsenic, Total	6010C	18	μg/L	10	1	6/16/14	6/20/14 05:40	
Lead, Total	6010C	50 U	μg/L	50	1	6/16/14	6/20/14 05:40	

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Sample Name: Lab Code:

MW-8R Dissolved R1404445-016

Service Request: R1404445 Date Collected: 6/11/14 1302

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	30	μg/L	10	L.	6/16/14	6/20/14 05:47	
Lead, Dissolved	6010C	50 U	μg/L	50	T	6/16/14	6/20/14 05:47	

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Service Request: R1404445 Date Collected: 6/11/14 1302

Date Received: 6/11/14

Date Extracted: 6/16/14

Date Analyzed: 6/18/14 08:43

Basis: NA

Units: µg/L

Sample Name: Lab Code:

MW-8R R1404445-015

Low Level Polychlorinated Biphenyls (PCBs) by GC

Analytical Method: 8082A

Prep Method: Data File Name: **EPA 3510C**

I:\ACQUDATA\6890G\DATA\061714\AX588.D\

Analysis Lot: 397664

Extraction Lot: 210846 Instrument Name: R-GC-58

Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note	
12674-11-2	Aroclor 1016	0.24 U	0.24		
11104-28-2	Aroclor 1221	0.24 U	0.24		j.
11141-16-5	Aroclor 1232	0.24 U	0.24		
53469-21-9	Aroclor 1242	0.24 U	0.24		
12672-29-6	Aroclor 1248	0.24 U	0.24		
11097-69-1	Aroclor 1254	4.3	0.24		
11096-82-5	Aroclor 1260	0.24 U	0.24		

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
Decachlorobiphenyl	42	10-125	6/18/14 08:43		
Tetrachloro-m-xylene	69	18-126	6/18/14 08:43		

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

EQUIPMENT BLANK

Sample Name: Lab Code:

R1404445-017

Service Request: R1404445 Date Collected: 6/11/14 0845

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor		Date Analyzed	Note
Arsenic, Total	6010C	10	U	μg/L	10	1	6/16/14	6/20/14 05:53	
Lead, Total	6010C	50	U	μg/L	50	1	6/16/14	6/20/14 05:53	

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

EQUIPMENT BLANK Dissolved

Sample Name: Lab Code:

R1404445-018

Service Request: R1404445 Date Collected: 6/11/14 0845

Date Received: 6/11/14

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10 U	μg/L	10	1	6/16/14	6/20/14 05:59	
Lead, Dissolved	6010C	50 U	μg/L	50	1	6/16/14	6/20/14 05:59	

Form IA

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Service Request: R1404445 Date Collected: 6/11/14 0845 Date Received: 6/11/14

Date Extracted: 6/16/14

Date Analyzed: 6/18/14 05:11

Sample Name:

EQUIPMENT BLANK

Lab Code:

R1404445-017

Units: µg/L Basis: NA

Low Level Polychlorinated Biphenyls (PCBs) by GC

Analytical Method: 8082A Prep Method:

Data File Name:

EPA 3510C

I:\ACQUDATA\6890G\DATA\061714\AX584.D\

Analysis Lot: 397664 Extraction Lot: 210846

Instrument Name: R-GC-58

Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note	
12674-11-2	Aroclor 1016	0.047 U	0.047		
11104-28-2	Aroclor 1221	0.047 U	0.047		
11141-16-5	Aroclor 1232	0.047 U	0.047		
53469-21-9	Aroclor 1242	0.047 U	0.047		
12672-29-6	Aroclor 1248	0.047 U	0.047		
11097-69-1	Aroclor 1254	0.047 U	0.047		
11096-82-5	Aroclor 1260	0.047 U	0.047		

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
Decachlorobiphenyl	39	10-125	6/18/14 05:11		
Tetrachloro-m-xylene	70	18-126	6/18/14 05:11		

SuperSet Reference:

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Sample Name: Lab Code: DUPE X

R1404445-019

/tical Report

Service Request: R1404445 Date Collected: 6/11/14

Date Received: 6/11/14

Basis: NA

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor E		Date Analyzed	Note
Arsenic, Total	6010C	14	μg/L	10	1	6/16/14	6/20/14 06:05	
Lead, Total	6010C	50 U		50	1	6/16/14	6/20/14 06:05	

Analytical Report

Client:

Barton & Loguidice, PC

Project: Sample Matrix: Metalico CAMU/1206.002.007

Water

Service Request: R1404445 Date Collected: 6/11/14 Date Received: 6/11/14

Sample Name: Lab Code: DUPE X Dissolved R1404445-020

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	n Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	29	μg/L	10	1	6/16/14	6/20/14 06:12	
Lead, Dissolved	6010C	50 U	μg/L	50	1	6/16/14	6/20/14 06:12	

SuperSet Reference:

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Service Request: R1404445

Date Collected: 6/11/14 Date Received: 6/11/14 Date Extracted: 6/16/14

Date Analyzed: 6/18/14 09:08

Basis: NA

Units: µg/L

Sample Name: Lab Code:

DUPE X R1404445-019

Low Level Polychlorinated Biphenyls (PCBs) by GC

Analytical Method: 8082A

Prep Method: Data File Name: **EPA 3510C**

I:\ACQUDATA\6890G\DATA\061714\AX589.D\

Analysis Lot: 397664

Extraction Lot: 210846 Instrument Name: R-GC-58

Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note	
12674-11-2	Aroclor 1016	0.24 U	0.24		
11104-28-2	Aroclor 1221	0.24 U	0.24		
11141-16-5	Aroclor 1232	0.24 U	0.24		
53469-21-9	Aroclor 1242	0.24 U	0.24		
12672-29-6	Aroclor 1248	0.24 U	0.24		
11097-69-1	Aroclor 1254	3,6	0.24		
11096-82-5	Aroclor 1260	0.24 U	0.24		

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	38	10-125	6/18/14 09:08	
Tetrachloro-m-xylene	65	18-126	6/18/14 09:08	

Analytical Report

Client: Project: Barton & Loguidice, PC

Sample Matrix:

Metalico CAMU/1206.002.007

Water

Sample Name: Lab Code:

Method Blank R1404445-MB Service Request: R1404445

Date Collected: NA Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilutior Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10 U	μg/L	10	1	6/16/14	6/20/14 03:12	
Arsenic, Total	6010C	10 U	µg/L	10	1	6/16/14	6/20/14 03:12	
Lead, Dissolved	6010C	50 U	μg/L	50	1	6/16/14	6/20/14 03:12	
Lead, Total	6010C	50 U	μg/L	50	1	6/16/14	6/20/14 03:12	

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Service Request: R1404445

Date Collected: NA Date Received: NA

Date Extracted: 6/13/14

Date Analyzed: 6/17/14 10:55

Units: µg/L Basis: NA

Sample Name: Lab Code:

Method Blank RQ1406527-01

Low Level Polychlorinated Biphenyls (PCBs) by GC

Analytical Method: 8082A

Prep Method: Data File Name: **EPA 3510C**

I:\ACQUDATA\6890G\DATA\061714\AX541.D\

Analysis Lot: 397664

Extraction Lot: 210749 Instrument Name: R-GC-58

Dilution Factor: I

CAS No.	Analyte Name	Result Q	MRL	Note	
12674-11-2	Aroclor 1016	0.050 U	0.050		
11104-28-2	Aroclor 1221	0.050 U	0.050		
11141-16-5	Aroclor 1232	0.050 U	0.050		
53469-21-9	Aroclor 1242	0.050 U	0.050		
12672-29-6	Aroclor 1248	0.050 U	0.050		
11097-69-1	Aroclor 1254	0.050 U	0.050		
11096-82-5	Aroclor 1260	0.050 U	0.050		

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	
Decachlorobiphenyl	48	10-125	6/17/14 10:55		
Tetrachloro-m-xylene	61	18-126	6/17/14 10:55		

Analytical Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Service Request: R1404445

Date Collected: NA Date Received: NA Date Extracted: 6/16/14

Date Analyzed: 6/18/14 00:33

Basis: NA

Units: µg/L

Sample Name: Lab Code:

Method Blank RQ1406589-01

Low Level Polychlorinated Biphenyls (PCBs) by GC

Analytical Method: 8082A Prep Method:

Data File Name:

EPA 3510C

I:\ACQUDATA\6890G\DATA\061714\AX573.D\

Analysis Lot: 397664 Extraction Lot: 210846

Instrument Name: R-GC-58

Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note	
12674-11-2	Aroclor 1016	0.050 U	0.050		
11104-28-2	Aroclor 1221	0.050 U	0.050		
11141-16-5	Aroclor 1232	0.050 U	0.050		
53469-21-9	Aroclor 1242	0.050 U	0.050		
12672-29-6	Aroclor 1248	0.050 U	0.050		
11097-69-1	Aroclor 1254	0.050 U	0.050		
11096-82-5	Aroclor 1260	0.050 U	0.050		

Surrogate Name	%Rec	Control Limits	Date Analyzed Q	
Decachlorobiphenyl	53	10-125	6/18/14 00:33	
Tetrachloro-m-xylene	69	18-126	6/18/14 00:33	

QA/QC Report

Client:

Barton & Loguidice, PC

Project: Sample Matrix: Metalico CAMU/1206.002.007

Water

Service Request: R1404445 Date Collected: 6/11/14 Date Received: 6/11/14

Date Analyzed: 6/20/14

Replicate Sample Summary Inorganic Parameters

Sample Name:

B-281

Lab Code:

R1404445-001

Units: µg/L Basis: NA

D

B-281DUP

Duplicate Sample

			Sample		5-001DUP		RPD
Analyte Name	Method	MRL	Result	Result	Average	RPD	Limit
Arsenic, Total	6010C	10	10 U	10 U	NC	NC	20
Lead, Total	6010C	50	50 U	50 U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results fingged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:

Barton & Loguidice, PC

Project:

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Service Request: R1404445

Date Collected: 6/11/14 Date Received: 6/11/14

Date Analyzed: 6/20/14

Matrix Spike Summary **Inorganic Parameters**

Sample Name:

B-281

Lab Code:

R1404445-001

Units: µg/L Basis: NA

Analytical Method: 6010C Prep Method:

EPA 3010A

B-281MS

Matrix Spike

R1404445-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits	
Arsenic, Total	ND	39	40	98	75 - 125	
Lead, Total	ND	489	500	98	75 - 125	

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteris is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded

QA/QC Report

Client:

Barton & Loguidice, PC

Project: Sample Matrix: Metalico CAMU/1206.002.007

Water

Service Request: R1404445

Date Collected: 6/11/14 Date Received: 6/11/14 Date Analyzed: 6/17/14

Matrix Spike Summary Low Level Polychlorinated Biphenyls (PCBs) by GC

Sample Name:

B-281

Lab Code:

R1404445-001

Units: µg/L Basis: NA

Analytical Method: 8082A Prep Method:

EPA 3510C

B-281MS

B-281DMS

Matrix Spike RO1406527-04 Duplicate Matrix Spike

RO1406527-05

		1	Q1400327-0	4	K	Q1400321-0	2			
	Sample		Spike			Spike		% Rec		RPD
Analyte Name	Result	Result	Amount	% Rec	Result	Amount	% Rec	Limits	RPD	Limit
Aroclor 1016	ND	0.383	0.500	77	0.300	0.500	60	40 - 140	24	30
Aroclor 1260	ND	0.364	0.500	73	0.324	0.500	65	19 - 162	12	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable,

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded

QA/QC Report

Client: Project: Barton & Loguidice, PC

Metalico CAMU/1206.002.007

Sample Matrix:

Water

Service Request: R1404445

Date Analyzed: 6/20/14

Lab Control Sample Summary **Inorganic Parameters**

> Units: µg/L Basis: NA

Lab Control Sample P1404445-1 CS

Analyte Name	Method	Result	Spike Amoun	t % Rec	% Rec Limits	
Arsenic, Dissolved	6010C	33.6	40	84	80 - 120	
Arsenic, Total	6010C	33.6	40	84	80 - 120	
Lead, Dissolved	6010C	484	500	97	80 - 120	
Lead, Total	6010C	484	500	97	80 - 120	

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Form 3C

QA/QC Report

Client:

Barton & Loguidice, PC

Project: Sample Matrix: Metalico CAMU/1206.002.007

Water

Service Request: R1404445

Date Analyzed: 6/17/14

Lab Control Sample Summary Low Level Polychlorinated Biphenyls (PCBs) by GC

Analytical Method: Prep Method:

8082A EPA 3510C Units: µg/L Basis: NA

Extraction Lot: 210749

	Lab R	and the second	e Lab Contr (Q1406527-0						
Analyte Name	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Aroclor 1016	0,280	0.500	56	0.344	0.500	69	40 - 140	20	30
Aroclor 1260	0.303	0.500	61	0.356	0.500	71	24 - 157	16	30

Results flagged with an asterisk (*) indiente values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:

Barton & Loguidice, PC

Project: Sample Matrix: Metalico CAMU/1206.002.007

Water

Service Request: R1404445

Date Analyzed: 6/18/14

Lab Control Sample Summary Low Level Polychlorinated Biphenyls (PCBs) by GC

Analytical Method: Prep Method:

8082A

EPA 3510C

Units: µg/L

Basis: NA

Extraction Lot: 210846

	Lab R		Lab Contr Q1406589-0							
15	Analyte Name	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
	Aroclor 1016 Aroclor 1260	0.353 0.374	0.500 0.500	71 75	0.356 0.375	0.500 0.500	71 75	40 - 140 24 - 157	<1 <1	30 30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded

Preparation Information Benchsheet

Prep Run#: 210846

Team:

Semiyoa GC/DMURPHY

Prep WorkFlow: OrgExtLLAq(7)

Prep Method: EPA 3510C

Status: Prepped

Prep Date/Time: 6/16/14 07:02 AM

Lab Code	Client ID	B#	Amt. Ext	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt/Inv. fD	Comments
1 RQ1406589-01	МВ		1000mL	8082A/PCB LL	6			2.00mL	clear-colorless	1.0000 mL/71399	
2 RQ1406589-02	LCS		1000mL	8082A/PCB LL	6			2.00mL	Annual Control of the	1.0000 mL/71399; 0.1000 mL/70612	
3 RQ1406589-03	DLCS		1000mL	8082A/PCB LL	6			2.00mL	clear-colorless	0.1000 mL/70612; 1.0000 mL/71399	
4 R.1404445-005	B-291	1.02	1060mL	8082A/PCB LL	7			2.00mL	clear-colorless	1.0000 mL/71399	
5 R1404445-007	B-401	.01	1060mL	8082A/PCB LL	7			2.00mL	clear-colorless	1.0000 mL/71399	
6 R1404445-009	B-402R	.02	1060mL ·	8082A/PCB LL	7			2,00mL	yellowcloudy	1.0000 mL/71399	
7 R1404445-011	B-403	.01	1060mL	8082A/PCB LL	7			2.00mL	yellowcloudy	1.0000 mL/71399	
8 R1404445-013	B-404	.02	1060mL	8082A/PCB LL	7			2.00mL	yellowcloudy	1.0000 mL/71399	
9 R1404445-015	MW-8R	.01	1060mL	8082A/PCB LL	7			2.00mL	orange-opaque	1.0000 mL/71399	
IOR1404445-017	EQUIPMENT BLANK	.02	1060mL	8082A/PCB LL	7			2.00mL	clear-colorless	1.0000 mL/71399	
11R1404445-019	DUPE X	.01	1060mL	8082A/PCB LL	7			2.00mL	brown-opaque	1.0000 mL/71399	

Spiking Solutions

8082 Spike 5 ug/mL AR 1260

70612 Inventory ID

Logbook Ref:

Expires On: 11/15/2014

Name: 8081/8082 Low Level surrogate 100ppb

Inventory ID

71399

Logbook Ref:

Expires On: 11/16/2014

Preparation Materials

Eppendorf Pipette Repeater

EXT #14 (61350)

2mL Graduated Vials

(71402)

Sulfuric Acid Reagent Grade

(71054)

Hexanes 95%

(71351)

Dichloromethane (Methylene canister (71374) Chloride) 99.9% MeCl2

H2SO4 Prepared Sodium Sulfate Na2SO4

(70845)

Prepared Tetrabutylammonium

(71634)

hydrogen sulfate (TBA)

Preparation Steps

Step: Started: Extraction

6/16/14 07:02

6/16/14 15:00

DMURPHY

Concentration

6-1016/14-20-162:45 3515 Finished: 6 16/14-20:16 3:15

By:

SGOLBERG

By:

Started: Finished:

Step:

6/16/14 15:40 6/16/14 15:40

SGOLBERG

Acid Clean-EPA 3665A Step: Started:

6/16/14 16:30 Finished:

6/16/14 16:45 SGOLBERG

Sulfur Clean-EPA 3660B

Started: Finished:

Step:

6/16/14 18:05 6/16/14 18:50 SGOLBERG

Final Volume

By: Comments

Finished:

Comments

Comments

By: Comments By:

Comments

(3) (Comments:

Reviewed By:

Date:

Spike Witness: LPRUNOSKE

Date:

Preparation Information Benchsheet

Prep Run#: 210749

Team:

Semivoa GC/DMURPHY

Prep WorkFlow: OrgExtLLAq(7) Prep Method: EPA 3510C

Status: Prepped

Prep Date/Time: 6/13/14 06:53 AM

L	ab Code	Client ID	B#	Amt Ext	Method /Test	- pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1 R	Q1406527-01	MB		1000mL	8082A/PCB LL	6			2.00mL	clear-colorless	1.0000 mL/71399	
2 R	Q1406527-02	LCS		1000mL	8082A/PCB LL	6			2.00mL	clear-colorless	1.0000 mL/71399; 0.1000 mL/70612	
	Q1406527-03	DLCS		1000mL	8082A/PCB LL	6			2.00mL	clear-colorless	0.1000 mL/70612; 1.0000 mL/71399	
4 R	1404429-031	MW-11SR-0614	.02	1060mL	8082A/PCB LL	7			2.00mL	yellow-cloudy	1.0000 mL/71399	
5 R	1404429-033	MW-12S-0614	.01	950mL	8082A/PCB LL	7			2.00mL	yellow-cloudy	1.0000 mL/71399	
6 R	1404429-035	MW-13S-0614	.02	1020mL	8082A/PCB LL	7			2.00mL	clear-colorless	1.0000 mL/71399	
7 R	1404429-037	MW-2001-10FBW	.01	1000mL	8082A/PCB LL	7	- 9		2.00mL	clear-colorless	1.0000 mL/71399	
8 R	1404429-039	MW-14S-0614	.02	980mL	8082A/PCB LL	7			2.00mL	yellow-cloudy	1.0000 mL/71399	
9 R	1404429-041	MW-15S-87-0614	.01	1000mL	8082A/PCB LL	7			2.00mL	yellow-cloudy	1.0000 mL/71399	
OR.	1404429-043	MW-20-85S-0614	.02	950mL	8082A/PCB LL	7			2.00mL	yellow-cloudy	1.0000 mL/71399	
1R	1404429-045	MW-23-85S-0614	.01	1000mL	8082A/PCB LL	7			2.00mL	yellow-cloudy	1.0000 mL/71399	
12 R	1404429-047	MW-27S-0614	.02	970mL	8082A/PCB LL	7			2.00mL	yellow-cloudy	1.0000 mL/71399	
3 R	1404429-049	MW-31SR-0614	.01	980mL	8082A/PCB LL	7			2.00mL	brown-opaque	1.0000 mL/71399	
4R	1404429-051	MW-30-0614	.02	970mL	8082A/PCB LL	7			2.00mL	brown-opaque	1.0000 mL/71399	
5 R	1404440-001	SP-101	.02	1000mL	8082A/PCB LL	7			2.00mL	white-opaque	1.0000 mL/71399	
6RI	1404440-003	SP-104	.02	860mL	8082A/PCB LL	7			2.00mL	yellow-cloudy	1.0000 mL/71399	
7RI	1404440-004	SP-106	.02	900mL	8082A/PCB LL	7			2.00mL	yellow-cloudy	1.0000 mL/71399	Land of the Land
18 R.I	1404440-005	SP-107	.02	1020mL	8082A/PCB LL	7			2.00mL	white-opaque	1.0000 mL/71399	
9RI	1404440-006	SP-108	.02	1000mL	8082A/PCB LL	7			2.00mL	yellow-cloudy	1.0000 mL/71399	part of the same
ORI	1404440-007	SP-109	.02	1000mL	8082A/PCB LL	7			2.00mL	yellow-cloudy	1.0000 mL/71399	
21 RI	404440-008	SP-110	.02	1060mL	8082A/PCB LL	7			2.00mL	clear-coloriess	1.0000 mL/71399	
2 RI	404445-001	B-281	.04	1060mL	8082A/PCB LL	7			2.00mL	brown-cloudy	1.0000 mL/71399	- 100
3 RC	21406527-04	R1404445-001 MS	.05	1000mL	8082A/PCB LL	7			2.00mL		1.0000 mL/71399; 0.1000 mL/70612	
4 RC	21406527-05	R1404445-001 DMS	.02	1000mL	8082A/PCB LL	7			2.00mL	yellow-cloudy	0.1000 mL/70612; 1.0000 mL/71399	
5 RI	404445-003	B-290	.02	1000mL	8082A/PCB LL	7			2.00mL	yellow-cloudy	1.0000 mL/71399	

Spiking Solutions

8082 Spike 5 ug/mL AR 1260

Inventory ID

70612 71399 Logbook Ref:

Expires On: 11/15/2014

Name:

8081/8082 Low Level surrogate 100ppb

Inventory ID

Logbook Ref:

Expires On: 11/16/2014

Preparation Materials

Eppendorf Pipette Repeater

EXT #14 (61350)

2mL Graduated Vials

(71402)

Sulfuric Acid Reagent Grade H2SO4

(71054)

Hexanes 95%

(71351)

Dichloromethane (Methylene

canister (71374)

Prepared Sodium Sulfate

(70845)

Prepared Tetrabutylammonium

(71193)

Chloride) 99.9% MeCl2

Na2SO4

hydrogen sulfate (TBA)

Preparation Information Benchsheet

Prep Run#: 210749

Semivoa GC/DMURPHY Team:

Prep WorkFlow: OrgExtLLAq(7) Prep Method: EPA 3510C

Status: Prepped Prep Date/Time: 6/13/14 06:53 AM

Preparation Steps

By:

Comments

Step: Started: 6/13/14 06:53 Finished: 6/13/14 14:42

Extraction Step: Started: Finished: DMURPHY

By: Comments

Concentration 6/13/14 12:30 6/13/14 13:50 SGOLBERG

Step: Acid Clean-EPA 3665A Started: 6/13/14 14:05 Finished: 6/13/14 14:10 By: SGOLBERG Comments

Sulfur Clean-EPA 3660B Step: Started: 6/13/14 16:10 Finished: 6/13/14 16:25 By: SGOLBERG Comments

Step: Final Volume Started: 6/13/14 17:15 6/13/14 18:00 Finished: By: SGOLBERG Comments

Comments: mp Date: Spike Witness: LPRUNOSKE Chain of Custody Religquished By: Date: Extracts Examined Received By: Date: Yes No